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Why I Am a Pictorial Photographer

(Number Five)

DR. K. KOIKE

IN my early school days I bought an old German-made camera from a friend of mine and used it to make pictures, without any purpose in view; but I abandoned it very soon. After that time ten or fifteen years passed, and then I came to this country. During that period things changed and advanced remarkably, and I found myself a stranger in the photographic field. Then a friend of mine gave me, as a souvenir, a 3-A Eastman Kodak fitted with rapid rectilinear lens. It was a fire-lighter to rekindle the extinct ambition of my heart and to make me a photomaniac again.

I paid less and less attention to the photographic apparatus all the time. When pictorial photography is the heart's desire, the photographic apparatus is only secondary. Neither the apparatus nor our hands alone can create pictorial photography, which is the record of our inspiration.

I used a 3-A Eastman Kodak fitted with Bausch & Lomb Zeiss Tessar lens before this, but now I depend only on a No. 1 Eastman Kodak fitted with Kodak Anastigmat lens. I never cared for any Graflex type. There might be many arguments about different types, but the Kodak type is good enough to express my conception, and that is the only reason why I select that type. Accordingly I use only an ordinary roll-film, and stay within its possibilities. I give my attention to the distance; but I ignore the stop most of the time, and use it fully open, sometimes covering it with three-times color-filter. This is contrary to the ordinary rules about the lens; but the result never disappoints me.

About technique, I still cling to the straight prints; but I have no intention of trying any particular process until I find it absolutely necessary. I know some special process is helpful to express atmosphere; but the composition is the first thing in pictorial photography. No borrowed fur can change a brutal wolf into a gentle sheep.

I like nature much more than I do human figure. My subjects, therefore, are mostly landscapes, with or without figures. Someone said I like clouds, and another one noticed I am a mountain-photographer. Snapping most of my landscape-pictures, I have no interest in blank sky; but I never begrudge a film when looking up to the blue sky with floating white clouds. I am not a mountaineer, but I like mountains lifting high up through the sky, and have had many chances to make mountain-pictures. Therefore, those friends may be right; but I am without doubt an amateur photographer of nature. For finding my photographic subjects, I like to walk about leisurely. Automobiles are a convenience in going quickly to reach far-distant places; but photographic subjects exist everywhere when we are observing. Very often a noted place furnishes no picture; but from time to time we find an admirable subject just in front of our home. No weather bothers me. I am a photo-hunter during the whole year.

Some think pictorial photography is not a species of art; but I hold another view. Some compare photography with painting pictures; but I think pictorial photography has its own standing, somewhat different from that of painting. Of course, painting has a long history, and no pictorial photography can compare with it in its art-value—at least, not at present. I read a few photographic books and magazines to learn something about compositions; but

it is certain that my idea is based on Oriental tendency, much influenced by the Japanese literature and pictures to which I am accustomed. I understand Japanese poems; and I think pictorial photography should not be an imitation of paintings, but it should contain a feeling similar to that of poems. I am not necessarily eager to make something new, but I intend to make it good always. Pictorial photography should be not only a temporary pastime, but it should have permanent vitality. Any photography without meaning is only a corpse without soul. Perhaps my work in the past is not good enough to express my conception, but I am trying hard to realise my ideal.

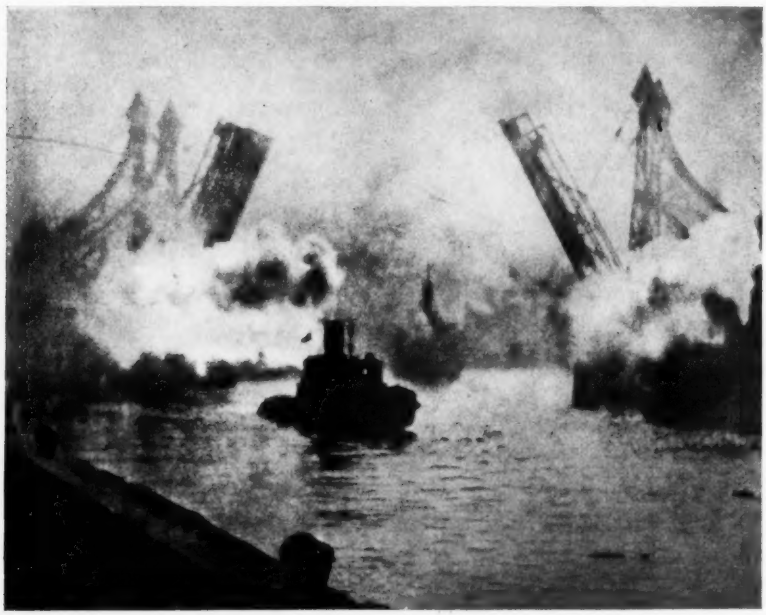
I contributed my prints, "Plain Foliage" and "Autumn", to the First Frederick & Nelson Salon, Seattle, 1920, for the first time. My magazine work began with "The Little Dancer", which was accepted and awarded honorable mention in the Child Studies by PHOTO-ERA MAGAZINE on March, 1922. Since then, my prints with records count over one hundred and fifty, but that means nothing to me. The goal of my desire is far away. I am advancing slowly, but steadily, toward my highest ambition.

The Syracuse International Salon

HAROLD W. COLE

SOME twenty thousand spectators testified to the praiseworthiness of the Second Syracuse International Salon, which was held at the Syracuse Museum of Fine Arts during the month of March, thus breaking by a considerable margin the attendance record of the previous salon held in 1926. The exhibition, in both instances, was made possible through the initiative of members of the Syracuse Camera Club.

Although the number of pictures accepted in the 1928 Salon was about one hundred below the total of two years ago, the general excellence of



BUFFALO CREEK — W. P. HUBBARD

SYRACUSE SALON

104349

TREES BY THE RIVER
EDWARD MUDGE
SYRACUSE SALON

A NEW YORK SUNSET

SYRACUSE SALON

JOSEPH PETROCELLI

CHARTRES CATHEDRAL ANTOINETTE HERVEY
SYRACUSE SALON

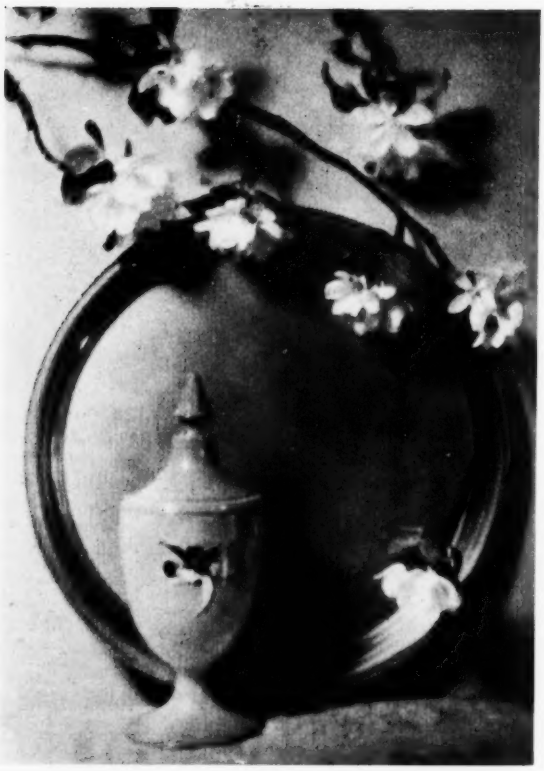
the work was such that the last exhibition brought forth as a whole nothing but commendation.

Since a number of pictorial contributors to PHOTO-ERA MAGAZINE entered and had their pictures accepted at the 1928 Syracuse show, a brief outline of the plan, followed by the jury of selection, may prove interesting before specific pictures are mentioned.

Members of the jury of selection, which comprised Prof. Carl T. Hawley of the Fine Arts College, Syracuse University, Dr. Ralph R. Scobey of the Syracuse Camera Club, and the writer, met at the club's quarters in the Y. M. C. A. at 4 P.M. on the date fixed, and were immediately escorted to the club's private exhibition-room. Here the salon-prints had been previously piled, minus wrappings. Closeted in this room, the jury immediately began its work.

First, the judges had to bear in mind that ten certificates of honor were available, to be awarded to the ten best pictures entered, regardless of class. Such being the case, it was decided that four piles of prints would be made in the selection-process; one comprising pictures the excellence of which would make them eligible for possible certificates; the second pile, relatively speaking, pictures which would be unhesitatingly accepted for hanging; the third, prints considered questionable either from the standpoint of pictorialism or technique; and fourth, prints definitely rejected. On this basis, the jury took up its task.

As each entrant had submitted generally the entire quota of four prints, as designated on the entry-blanks, the work of each exhibitor was placed singly on a long print-table adequately illuminated. Thus, with the different entries in full view, but with ample space between pictures to eliminate detraction from one print by the qualities inherent in another, the judges were enabled to pass successively from one print to



STILL-LIFE WALTER HAZELTON
SYRACUSE SALON

another and cast their votes, with what was held to be considerable facility and fairness.

Two hours and a half were consumed in this manner by the jury in passing on the total prints entered. Pile No. 1, at the end of this initial process, contained nineteen pictures; the second pile considerably over one hundred prints; the third probably one hundred and fifty prints, with the rejects comprising the fourth pile.

To permit of a clearing of the mental warehouses of the judges, as it were, before making the final selection, the jury members, after reporting to the camera club's officers the progress made, were then escorted to dinner at a down-town restaurant. This brought a gap of about an hour and a half, in which, by the way, almost anything but the pictures in question was referred to.

The jury then returned to the club's quarters and again resumed their efforts. At this period, No. 1 pile of prints was examined at length, and the ten certificate pictures decided upon. Prints remaining after this selection were placed in Pile No. 2. Then Pile No. 3 was approached, and the selection process repeated, with accepted prints being passed back into Pile No. 2, and the remainder transferred to the original pile of rejects. This last process occupied another two and a half hours, at the end of which a check revealed exactly 173 pictures accepted for the exhibition, including the ten certificated prints. It may be pertinent to add here, that in every instance where entered pictures were the subject of decided discussion, either for or against acceptance, each print was ultimately accepted, or conversely, rejected, with the unanimous consent of the jury members.

Prints awarded certificates, in the order of listing in the Salon catalogue, were as follows:

(1) "Some Day", by Edwin Bolan, Hinsdale, Ill.; three-quarter length study of a farmer lad, who leans an instant on his rake-handle to muse

L'ENTREE DU BOIS
LEONARD MISSONE
SYRACUSE SALON

off into space. "Some day I shall be freed of all this; shall walk streets paved with flowers and glints of golden light", he seems to say. Bromide did all that could be desired here; Ottawa, 1927.

(2) "Trees by the River", a bromoil by Edward D. Mudge, of Bellaire, L.I.; presumably another Bronx River landscape, and a companion print to the one which recently won a first award in the PHOTO-ERA Advanced Competition; such a peaceful environment as might be fittingly associated with poets and dreamers; Toronto, 1927; Seattle, 1927.

(3) "Buffalo Creek", another bromoil of large dimensions, by W. P. Hubbard, of Buffalo; river traffic; a tug lumbering between the raised arms of a cantilever bridge, apparently; plenty of atmosphere, indicating a fine flair for pictorial as against literal rendering; exhibited at several other salons.

(4) "Grape and Glass", by H. S. Kaito, of San Francisco; a bromide study of the type that makes the beholder almost taste the luscious fruit; fine scale of tones; Los Angeles, 1928.

(5) "Gypsy Coquette", a trepanned portrait study of a young woman, apparently of the Latin type, by Samuel Lumière, of New York; the model certainly fits the title; a strong print by the chloride process; Los Angeles, 1927.

(6) "Sous les Pruniers" ("Among the Blossoms"), by Leonard Misonne, Gilly, Belgium; oil; three children who might be picking violets at the edge of a woodland, with the magic of light and life portrayed after the inimitable Misonne manner; Midland, Leicester, 1926; Budapest, 1927; on the reverse of the print, too, in fine English and with presumably Misonne-ian irony, "Refused at Edinburgh!"

(7) "Chartres Cathedral", an interior in paladium by Antoinette B. Hervey, of New York; peace here, too, yet the peace of the nave and the cloister rather than of the wold or the vale; native devotees in worship before a shrine hallowed with the devotion of patriarchs; much more than a technical triumph; many times reproduced, including 1926 volume of "Pictorial Photographers of America"; Brooklyn, 1927.

(8) "South Wind", a chloride picture by Victor Overman, of Omaha, Neb.; pure symbolism attained through registering of a girl dancing, in which the aëry garments and graceful pose well suggest motion.

(9) "Pastorale Arabe", by Joseph Petrocelli, New York; a masterly, bromoil print which has been widely exhibited and reproduced; native Arabian shepherds with their flocks, amidst the sands and palms of the East, and filled with its inscrutable mystery.

(10) "The Slave", by Trui H. Urma, New York; a refreshing variation on this theme, consisting of a three-quarter-length nude figure-study done in bromoil and depicting a woman who, hands tied, is struggling to release herself from her bondage; connotes forcefully the struggle also of man through untold centuries against bigotry, prejudice, and unreason; a print that might well serve as an example for workers essaying this type of picture, but whose results for the most part depict nakedness, regardless of how well-intentioned the primary conceptions of such workers may be at the outset.

It may not be amiss to present brief data on the processes of the pictures exhibited. As usual, bromide led with 93; chloride was second with 26; then bromoil with 25. The remaining pictures were in the following various mediums: paladium, platinum, gum, carbon, Fresson and resinotipia.

Exactly ninety exhibitors were represented in the Salon; and while all of the work hung was of a laudable order, the following workers demonstrated particular excellence in their pictures: Louis F. Bucher, Newark, N.J.; Karl Butka, Chicago; Louis N. Chatani, Seattle; H. Richardson Cremer, Upper Montclair, N.J.; F. Drtikol, Prague, Czechoslovakia; Carl Frankenberger, Chicago; Dr. Charles H. Jaeger (miniatures, which lost not at all by being small), New York; Alexander Leventon, Rochester, N.Y.; Harald Lonngvist, Gefle, Sweden; Frank R. Nivison, Fall River, Mass.; H. W. Schonewolf, Buffalo, and James S. Lawshe, Los Angeles.

While, as previously indicated, the number of prints accepted this year was smaller than at the 1926 Syracuse show, it was commented that the recent exhibit suffered nothing in comparison, in that there was an absence of pictures "screaming for space on the gallery walls", as one spectator aptly put it.

Taken as a whole, the exhibition was one worthy of approbation, and spoke most forcefully for the fine spirit of progress being evinced by the members of the camera club under whose auspices it was made possible. The fact that the rotogravure sections of two leading Syracuse Sunday newspapers reproduced five of the prints, with appropriate explanatory data, the day before the exhibition opened, doubtlessly aided in increasing the Salon attendance.

Officers of the Syracuse Camera Club requested especially that thanks be extended to Dr. Fernando Carter, director of the museum where the exhibition was held, for his co-operation; and to the Editor of PHOTO-ERA MAGAZINE for his willingness to publish a brief commentary on the Salon, as presented herewith. It is hoped that it will be of interest and value to the reader, and afford him encouragement.

COURTYARD—BUDAPEST CAROLINE GOLDSTEIN

One Rainy Afternoon

E. L. C. MORSE

THE month of April was running true to form: sunshine, shower, sunshine, shower. John and I were sitting comfortably in my den, watching the rain falling. The tobacco was good, and there was enough of it; our pipes were drawing well. We talked about politics, and then drifted back to photography.

Suddenly he turned to me and said, "You are the biggest growler in PHOTO-ERA MAGAZINE. You are always finding fault; nothing suits you".

"Now John is one of my candid friends—note the spelling, *candid* and not *candied*—and I set great store by his opinion.

"There are two kinds of criticism", replied I unruffled; "one is destructive, and the other is constructive. The former simply finds fault, and the latter makes suggestions for improvement, and gives the reasons why."

"Under which category do you fall?" said John, who loves big words.

"Constructive", replied I unabashed.

"Prove it", said he.

I reached for the April number of PHOTO-ERA MAGAZINE, which had just come to hand. I turned to page 227: "Courtyard, Budapest", by Caroline Goldstein. "There", said I, "there is a picture."

"What do you like about it?" inquired John.

"It is simple, direct, and effective; well arranged, no striving for effort; nothing theatrical, everything absolutely natural. The proximity of the darkest accent to the highlight is very effective, and gives strong contrast. Note that the center of interest is the girl on the left in dark clothes, leaning against a white wall. The other figures are important, and are natural accessories to the main figure. The technique is unexceptionable; the shadows are luminous where they might be expected to be luminous, and opaque where they might be expected to be opaque."

"Very well", said John, "now tear its composition to pieces."

"My dear man", said I, "just put your right thumb over that patch of sky in the upper right corner, and note the result."

He did, and uttered a low whistle. Then he

FIGURE 1 E. L. C. MORSE

said, "Tell me why that affected the picture as it did".

"It simplified the composition by removing a highlight which is not a necessary or proper accessory to the scene and which is competing with the necessary and proper highlights on the wall and on the stone-pavement."

"Very well", said John, "why not cover over the top of the picture about an inch from the top with some gray paper?"

"An excellent idea", said I. "Now notice that the highlight near the balcony does not draw the eye from the human figures up into the top of the picture—where it does not belong. We now have a much simpler picture, and one of concentrated and not scattered interest, as formerly."

"But, of course, you are not satisfied?" asked John with a smile.

"Not exactly", I admitted. "There is a figure that is of secondary importance in the exact middle of the picture—which, of course, is the very weakest spot in the picture."

"What are you going to do about it? You can't move it."

"Well let's see", said I. "That absolute black at the right of the picture is doing no good. Suppose you place a piece of gray paper so as to cut off most of that black vertical at the right. And while you are about it, cut off a little of that foreground. What do you think of it now?"

"Well", said he, "I should say it was an improvement. The picture is certainly nicely balanced. The upper right and the lower left corners have heavyish blacks. So have the lower right and the upper left. The middle left is in a highlight. This highlight splits into a sort of triangle caused by the broken light on the pavement and by the white clothes of the other figures and the clothes-line. If a fellow would tone down a bit that glaring white awning and the white spots at the top of the picture, I should say it was an excellent piece of work."

"I think we made a mistake cutting off so much foreground", said I.

"Why so?" said he.

"Because it gives the picture too much of a shut-in feeling. We must have some compensation somewhere, in order to give a broader idea of the scene. Let's have that foreground back again, just as it was first. Ah, that opens it and gives space and breadth."

We leaned back, had a smoke, and agreed in our mind that it was a pretty good picture.

We turned over the April number and paused at page 220.

"That's a *beaut*", exclaimed John, who is addicted to slang.

"Why?" said I.

"I dunno", said John, "but it hits me hard. You tell me why."

WHERE GOLDEN MEMORIES CLING

GEORGE W. FRENCH

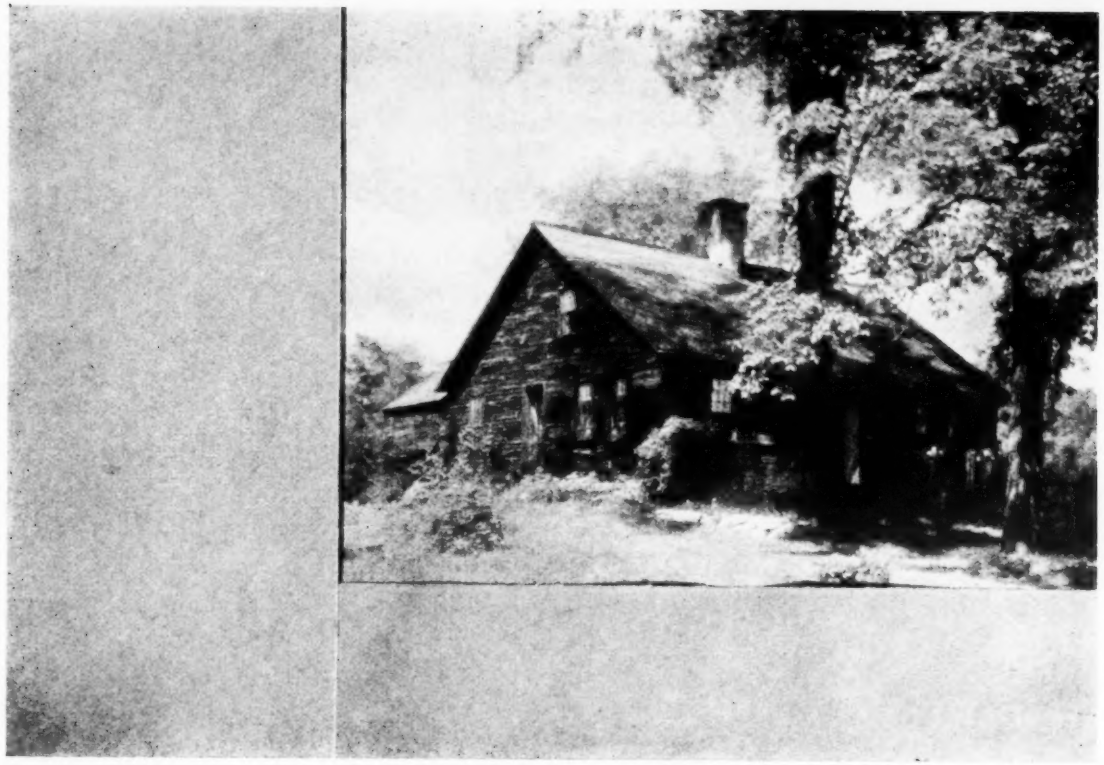


FIGURE 2

E. L. C. MORSE

"Because", I suggested, "it produces placid thoughts and conveys a gentle mood of reminiscence. The artist has an idea, and he uses photography effectively to bring out that idea. The print is not harsh or staring; it is soft and not too liny. Exposure, development, and the kind of paper used, all contribute to this end. In fact", said I, "it is one of the most artistic pieces of work that I have seen for a long time. There are a few strong highlights, a mass of blacks—but not too many, and a lot of halftones which, of course, relieve and accentuate the darks and lights. Their juxtaposition is very significant."

"Why significant?" said John.

"Well, just put your thumb on that white mass of foliage near the front door. Notice how lifeless the whole thing appears now. Then, also, put your little finger over that white space near the corner on the ground. Note the effect? Kills the whole picture; it's as dead as a morgue. Note how that flare of white caused by the open front door relieves and accentuates both the darks and the lights. Note the halftones on the trees and on the roof, how they relieve and vivify the otherwise overpowering somberness of the scene."

"Hm", said John, "Now find fault with it, as usual."

"Thanks", said I, "I will try to. The letter-box is very conspicuous, and very hideous. It should be removed. The well-house is too light; and, while it is a natural appurtenance to a farm-house, it adds nothing to the scene from an artistic point of view. The barn is of no particular account. It is not heavy enough, large enough, or dark enough to balance the strong mass of the dwelling house. That dark mass in the lower right corner is an artistic blemish. There is no apparent reason for its existence."

"Consequently"—said John.

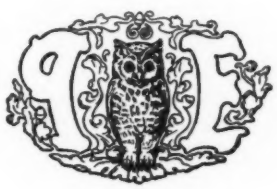
"Consequently", echoed I, "bring out that gray paper. Lay it on so as to cut off the foreground, just enough to obliterate that horrid mail-box. Take another piece, and cut off all the picture to the left of the well. Now you have an almost perfect picture. There is much sky, but it is fortunately tinted; it is not what is called 'bald-headed.' The grass is perhaps a little light; but, even so, it serves to enliven the general effect. Those halftones in the trees and on the roof are simply delicious. The shadows are luminous. The ensemble is superb. It is not exactly my old grandfather's house up in the hills of New Hampshire, but it is near enough to set my heart a-flutter:

'I remember, I remember,
The house where I was born;
The little window where the sun
Came peeping in at morn;
It never came a wink too soon
Nor brought too long a day;
But now I often wish the night
Had borne my breath away!'

"Mush!" exclaimed John, "just plain mush, and from a cynic, too!" John does not appreciate poetry. He develops snapshots in a tall stone tank—for money.

"I do not admit the truth of your epithets", said I, "but, taking them at their face value, you will have to agree that a photographer who can draw mush from a cynic is some photographer."

John hunched his shoulders and said nothing. The sun had come out, and we sallied forth to seek green fields and pastures new.



INDIAN BAKE-OVENS FRANK REEVES

Vacation-Photography

Part II

FRANK REEVES

WHEN we were visiting the Zuñi Indian village, an Indian woman marched over and took Mrs. Reeve's hand and said: "Now, make our picture". When I had made it, she said: "Now, give me quarter". She held to Mrs. Reeve's hand until she got the money.

The air is very clear in New Mexico. In the open you can cut your exposure around twenty-five per cent. for a normal exposure farther east. In the mountains, however, the foliage is very green, and the rocks are dark brown or dark red—colors that absorb light in a surprising manner. You are apt to get very heavy shadows and contrasty negatives if you cut your exposure too much. Often beautiful cloud-effects are possible.

In the matter of supplies, roll-films—except those for roll-holders—may be obtained in even the smaller towns. Film-packs are not so plentiful in the West; in fact, the larger cities are the only dependable source of supply. Cut-films and plates are harder to obtain: if you run out, you will be obliged to depend upon the willingness and the supply of some local photographer to help you out.

The same conditions as to light and supplies that obtain in New Mexico are found in Arizona.

Check the working of your camera and your ability to judge the light occasionally by having a roll of films developed. It pays; and by looking around you can find someone that will do satisfactory photo-finishing. Except for your test-exposures you can send the other rolls home to your favorite photo-finisher and let him develop them at his leisure. That beats carrying them around with you.

In these days when the corner drug-store is everything else but a drug-store, it is quite the habit to drop in and leave a roll of films to be photo-finished. They in turn pass them along to a photo-finisher who specialises in such work. Personally, I prefer to take my chances with a

THE OLD CHURCH AT RANCHO DE TAOS
COUSE STUDIO
FRANK REEVES

PUEBLO AT LAGUNA
TYPICAL ARIZONA SCENE
FRANK REEVES

shop that receives the film and does the work—depending on the quality of their service to offset the convenience of the corner drug-store to hold patronage.

Drug-stores in the West demand and receive as high as forty and sometimes fifty per cent. on the work they take in. Obviously, they are interested in sending the work where they can get the best discount. I can't avoid the thought that shops that give this high discount can't give the service that they could if they got the entire amount paid by the customer.

Although I am sure that there are others, I found two places in Los Angeles that do splendid work, Earl V. Lewis and Howland & Dewey—the latter is a branch of Eastman Kodak Company. Neither does any outside work; the former gives forty-eight-hour service, and the latter gives twenty-four-hour service. When you get your prints, they are quite different from the work that is rushed through in from four to eight hours.

Once I turned a few rolls over to a photo-finisher who gathered them up in a large public auto camp-ground. Today those films are worthless because of hypo-stains from improper washing.

The Petrified Forest in Arizona was very interesting, but yielded only a few record prints. The Grand Cañon was our next stop. I shall never forget my first glimpse of it as, late one afternoon, I stood on the rim. The slanting rays of the sun cast long shadows, and the colors were mellowed by the evening-haze. That night I dreamed of the pictures I would make on the morrow.

The real beauties of the Grand Cañon are due to atmospheric coloring instead of mineral coloring. True, there are certain mineral colors—mostly dark reds, browns, and yellows in evidence. These are softened and blended by a purple haze, and by the ever-changing shadows and highlights as the sun tours the sky. One moment a point may be bathed in brilliant sunlight; the next engulfed by a shadow cast from a towering crag that is carved and shaped in a manner only Nature's handiwork can produce.

The vastness of the Cañon and the purple haze render the making of pictures somewhat uncertain. Only under the most favorable conditions can satisfactory pictures be made without the use of a filter. That pictures of it can be made is evidenced by the splendid collection of prints that may be seen at the local photograph shop; but they have been years in making the collection.

During the night a wind came up, and by morning the air was filled with dust. We stayed four days, and the wind was blowing when we left. With the addition of the dust to the air, picture-making was complicated even more. The few shots that I attempted fully met my expectations, when developed, by turning out complete failures.

JOE YELLOWFOOT FRANK REEVES

INSCRIPTION ROCK FRANK REEVES

I have seen some very good pictures made of the Cañon without a filter, but I have an idea most of them were made just after a shower. Some day I hope to go back with a supply of panchromatic films or plates and a filter, and get something that will depict the Cañon as I saw it.

Inscription Rock, a towering mass of sandstone that has on its walls inscriptions that date back three hundred years, and which are still decipherable, proved very interesting, and very trying to photograph. The rock is a light cream in color. The first dated inscription recites the discovery of the Gulf of California in 1606 by Juan de Oñate. I have misplaced my copies of the translations as prepared by the Government.

The first white man to see the rock was Lieutenant J. H. Simpson—afterwards General Simpson—when the inscriptions were copied by him and R. H. Kern, an artist that was in the company of soldiers. They, in turn, left an inscription showing their visit in 1849. The rock is now a national monument. If ever I have an opportunity to go back, I think I shall take some colored chalk to outline the inscriptions in order to make them more easily copied by the camera.

At the Indian pueblo Laguna, which was founded in 1699, we saw many attractive pieces of pottery that were made by the women. We were disappointed to be unable to go through the old church, because the keeper of the keys had gone off on a fishing-trip. This church is said to contain the largest painting ever made on elk-skin.

In due time we made our way to Los Angeles, and then out to Santa Monica, where we got our first glimpse of the Pacific from the park. How it thrilled us—"dry-landers" that we were!

I thought then—and I have no cause to change my view—that it offered a wider range of picture-possibilities than I had ever seen: the ocean,

INSCRIPTION ROCK FRANK REEVES

interesting beach-scenes, a picturesque park overlooking the beach and sea, and mountains within striking distance. How I worked to record them!—but I will tell you about that in a future article.

Astronomical Amateur Photography

WILLARD J. FISHER

IN PHOTO-ERA MAGAZINE, LX, pages 72–74, 1928, Mr. W. Mueller has an article on "Astronomical Amateur Photography", illustrated by photographs of the curved marks made by star-images trailing across the plate of a fixed camera. This suggests two possible lines of amateur photography which are of considerable value when properly done: these are records of night-cloudiness and meteor-photography.

For many years the Harvard College Observatory and the Blue Hill Observatory have maintained "pole-star recorders". These are long box- or tube-cameras, each with a single lens and a small plateholder. At Cambridge the lens is of about 35-inch focus, stopped down to 5/8-inch aperture, and with a simple flap shutter. No doubt a spectacle-lens would serve. The camera is built into the wall of a telescope-house and points at the North Pole, so that the image of

FIGURE 1 WILLARD J. FISHER

Pole Star Recorder at Blue Hill Observatory.

Polaris, the North Star, makes a little circle, about 1¼ inches in diameter, around the center of the plate. One plate serves for a night's record. Interruptions in the trail of Polaris indicate clouds passing. The moments of opening and closing the shutter are recorded; and so the moments of passage of any cloud, and the duration of cloudiness, can be read off by centering the negative on the face of a watch. As the star-image goes clear around once in 24 hours—or would, but for daylight—any interval of time read from the watch-dial (hour-circle) must be multiplied by two. The morning closing of the shutter can be done by an alarm clock, which obviates the need of getting up before dawn.

In our latitudes it is found that the total obscuration of Polaris gives a very good measure of the average night-cloudiness.

The first figure shows the Pole Star recorder at Blue Hill Observatory. A similar contrivance is also used at some Weather Bureau stations. The second figure shows the Pole Star record of January 10, 1917, and a certain amount of cloudiness at Cambridge.

Meteor-photography is more uncertain; for, unlike the Pole Star, meteors are very uncertain and move very fast. A slow lens is of no use for the purpose; but, at worst, something working at F/3 and covering a good field on a fast plate, is necessary. Any camera, rigid or made rigid, will do. The focusing is for infinity. The amateur's camera is best rigidly fixed in a position which depends on the meteor-shower expected, but usually may as well be pointing at the zenith, straight overhead. An electrically lighted sky, like that over a great city, and moonlight, blacken plates very rapidly.

The moments of opening and closing the shutter must be exactly noted by a watch whose error is known, by radio or telegraph. Between these moments the star-images will move across the plate and make trails, curved as in Mr. Mueller's figures. To avoid confusion, the total exposure of the plate should not be over two hours, under good sky-conditions. Any meteor which passes across the field will make a straight mark, if bright enough. This mark is a valuable history of the place, growth, and decay of the object. If the moment of the meteor's passage is recorded by an observer with a watch, considerably greater use can be made of the record, for the measurements can be made more exactly.

On some of the more than quarter-million plates made by the Harvard Observatory and its branches, such trails of meteors have been found, numbering now about 360. These plates have been made generally for entirely different pur-

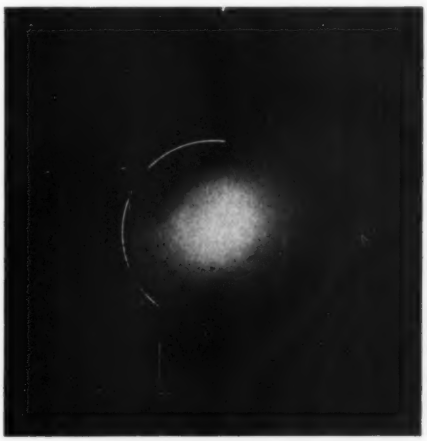


FIGURE 2 WILLARD J. FISHER

Pole Star Record of January 10, 1917, at Harvard Observatory. The breaks indicate clouds passing.

poses, and with slow lenses; so that the number of plates per trail is excessive. The most important and fruitful dates have been December 10 to 13, in spite of the bad weather of that time. The next best have been August 8 to 12.

Anybody can search his plates for meteor-trails, but the measurement of the trails is best left to persons who have access to the charts and catalogs of stars at an astronomical observatory. The apparatus used is simple, but the identification of the stars and the computing need practice.

The especial interest of meteor-study lies first in the close relations of these objects to comets. It has become probable that comet heads are bunches of miscellaneous-sized stones and chunks of nickel-iron alloy. These form comet-tails on account of the radiation of the sun, which drives out and away and illuminates the gases contained in these stones and irons. Certain comets surely have long retinues of more scattered stones and chunks behind them, and along and beside their orbits. When the earth during its yearly circuit about the sun passes through one of these retinues, some of the stones, etc., hit the atmosphere, with speeds so great—five or ten to fifty or more miles per second—that the mere compression of the air in front heats the stones to boiling and evaporation, and people see "shooting stars" darting across the sky. Occasionally, one of the stones or irons—being big enough, or going slowly enough, to survive the rush through the air—reaches the ground, and may be picked up and called a "meteorite". This happens very rarely; but the great meteorite collections of Harvard University, Yale University, the American Museum of Natural History, and the Field Columbian Museum, are impressive, nevertheless. The meteorite collections of the world contain over 250 tons.

Secondly, it is known that some meteorites and fireballs never were members of the solar system at all, but came from regions where the sun is of no more importance than any other star. They are samples of the dark matter of interstellar space, which we can handle, weigh, measure, slice up, and polish for microscopic study, and analyse with our chemical reagents. Strangely enough, they bring us nothing new—the well-known elements of the earth's interior are also the elements of the dark matter of space. Like the spectroscopic study of starlight, meteorites inform us that the chemistry of the earth is the chemistry of the universe.

The last figure shows the autobiography of one of these stones, written in the last few seconds before its final destruction. The object was incidentally photographed with an equatorially mounted camera at Arequipa, so that the stars show as dots instead of trails. The meteor evidently turned and squirmed in its agony, with now one side and now another exposed to the fiery torment in front. It died May 8, 1909, somewhere over Peru. This photograph contains all that we know about it, and more.

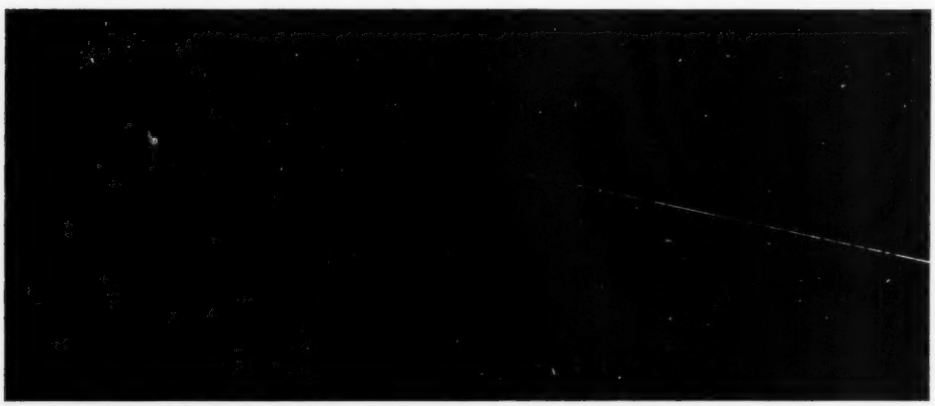


FIGURE 3 WILLARD J. FISHER

Flickering Meteor Trail, Harvard Observatory Station at Arequipa, May 8, 1909, Cooke Lens, F/11, "Sky Patrol" camera.

The Hemispheric Theory of Light-Intensity

Part III.—The Actino—The Unit to Measure Actinicity

F. MORRIS STEADMAN

IN the preceding article in the May, 1928, issue of PHOTO-ERA MAGAZINE, a unit was defined for the measurement of the solid angle that light-sources, openings, lens-stops, the whole sky, and so on, occupy relative to a point on a surface illuminated by them. It was also shown that light-sources became larger in the visual field when approached and smaller when receded from, according to the well-known law of perspective. The following law was established: Intensity varies in direct ratio and because of the changes of solid angle in the light-source, whether such solid angle be changed at a fixed distance by adding additional light-units, or by taking away some of the units from a group source, or when the distance is altered and the solid angle of the light-source is changed according to the law of perspective.

It was also made clear that all surfaces, technically, were illuminated by the independent illumination of each surface-point, and that practically each letter on a printed page and each grain of sensitive salts in a photographic emulsion may be considered as illuminated objects or units, each one being illuminated independently by the rays that converge upon it from space.

In order that the reader may appreciate the above truth—that of the independent illumination of objects—it would be well to carry out the following simple experiment: Cut out a small letter from any printed page, and stick it onto the flat end of a pencil or small stick.

The basic truth in the Hemispheric Theory is that *each point or unit, on a surface or area, is confronted by a whole hemisphere of directions, from all or a part of which light can come to illuminate it.* Now it is evident that this letter pasted onto the end of the pencil can be held against almost any desired surface, in which case that surface will illuminate the letter from nearly a hemisphere of directions, or from almost the whole potential hemispheric source.

Take a surface as small as a business-card and lay it on the window-sill with the plain side upward. Then hold the letter down directly over and about an inch in distance from it, and the actual condition will be that the letter will receive the light that converges upon it from the whole card.

If we perform the experiment with a candle-flame in an otherwise dark room, the letter can be held very near the flame, so that the latter will occupy the greater part of the potential light-source confronting the letter; and it can be retired so that the flame will occupy less and less of the hemisphere, according to the law of perspective.

These observations show us that the intensity of the letter alters with the intensity of the surfaces that it is held close to, and also with the amount of solid angle that the source occupies relative to the distance from it to the letter, as in the case of the flame at different distances.

If the letter be held facing a window, these two factors are present, since the intensity of the sky-area illuminating the letter will vary with the hour of the day, while the solid angle of the converging pencil of rays may be varied at a fixed distance with the window-shade or at varied distances, as the solid angle of the window-opening is altered by the law of perspective.

If, now, we substitute for the letter on the end of the pencil some medium that will discolor under the action of light, it is evident that such a medium will take on any certain tint more quickly when it is confronted by an intense surface than when it is confronted by one of less intensity. Also, it will tint more quickly when exposed to a great extension of light-source, as when held close to a window, than when the pencil of rays has a less solid angle, as when held farther from the window. These conditions are in fact the same as those found in working with the camera: The exposure—the brightness on the plate—is varied by the brightness of the subject, and also by the size of the stop used.

Now as to fixing the unit for the measurement of this surface-brightness: It is evidently impractical to hold a tinting medium so close to a surface that the latter will fill nearly the whole hemisphere of space that confronts it; and, also, if we hold the medium at a distance from any surface equal to one average diameter of the surface, then accuracy is defeated in two ways: *first*, by the irregularity of the shapes of the areas that we see about us; and *second*, by the fact that under daylight-conditions, *all* surfaces are visible and have brightness and there could result only a measurement of the average brightness of all the surfaces that would confront the medium.

These difficulties are easily remedied, however, by allowing the tinting medium to be illuminated from any surface through an opening in an instrument, such opening being gauged to admit a converging pencil of rays, $f/1$ in form, or from one-eighth of a hemisphere of directions. The reader can construct such a meter by cutting a circular opening in the lid of any small cardboard box, making the diameter of the opening equal to the thickness of the box. Opposite this hole cut a smaller one in the bottom of the box, below which the tinting medium, a small strip from a Brownie or other roll of film, is placed.

The standard tint is the "least visible" one. From a maximum blue sky, one-eighth of a second suffices to get this tint. If there are thin white clouds, lighted by the sun, one-sixteenth of a second will suffice. The palm of the hand lighted by the sun and sky will make the tint in one-half second; but if the hand is in the maximum shade out-of-doors, two or four seconds will be needed. Within a room, about one step from a window, the hand or cheek will require eight, sixteen or thirty-two seconds to make the tint.

Only the geometric scale of time-intervals need be used—as 1/16, 1/8, 1/4, 1/2, 1, 2, 4, 8, 16, 32, 64 seconds, etc. The last interval mentioned, 64 seconds, is the "meter-time" that is chosen to define one actino of actinicity; and, therefore, 64 divided by the meter-time of any surface or expanse, as measured, gives its photographic brightness in actinos.

Let me make this very simple: Take your little cardboard box meter as described, and put a strip of film below the smaller hole in the bottom of the box, after covering the larger opening in the lid with a coin. Expose this film through the opening, say, to a piece of paper pinned to the shady side of the house. Hold the meter closer to the paper than the width of the paper. By repeated trials, discover the least time interval in the scale given that will suffice to create the faintest visible tint on the film, going into the house to examine the strip. If the paper is white, this interval will probably prove to be one-half, one, or two seconds, and the brightness in actinos will be 64 divided by the correct meter-time, or 128, 64, or 32 actinos. This is because of the evidently simple truth that the brighter the surface measured, the shorter will be the time interval required to get the standard tint, just as it is true in general that a brighter subject requires less exposure than a weaker one, when actually photographing it.

The actual definition of the actino is as follows: A surface or expanse has one actino of actinicity or photographic brightness when it creates

(1) a least visible tint, on
(2) a standard tinting-medium in
(3) one minute, or in practice 64 seconds
(4) when the light converges upon the sensitive medium from the measured area or expanse in the form of $f/1$, one-eighth of a hemisphere, or in the dimension of 4,096 cone units, when the unit is taken as the form $f/64$.

In my Unit Actinometer, four extra openings are provided in order to avoid repetitions in finding the meter-time on measuring the brightness of any surface. These openings are equal to 1/8, 1/16, 1/32, 1/64, and 1/128 of a hemisphere, respectively. The forms of their converging pencils of rays are $f/1$, $f/1.4$, $f/2$, $f/2.8$, and $f/4$. Their actual solid angle-values, when expressed in the units of that dimension, are 4,096—or approximately 4,000, and are written 4M, 2M, 1M, 512 and 256 units, respectively.

When the light from any surface has been allowed to enter the meter-openings for the time-interval which it is judged will create two or three tints on the meter-paper, the strip is pulled out a short distance to note the effect. This is done in rather weak light. The time-interval actually given in the test is applied mentally to the deepest tint, that made under the $f/1$ opening, and this interval is halved for each of the *extra* tints that are visible. The time-interval falling on the faintest tint is the meter-time sought, since it is the time that the $f/1$ opening would require to create the faintest visible tint.

In practice it is the highlight-area of a subject that is measured, and care is required to point the meter precisely toward that area, holding the meter close enough to it so that no other light can possibly enter the openings. Only then should the lid be raised and the chosen time-interval given.

It is clear that the matter has now been reduced to the simple condition that *some surfaces will tint the paper faster than others.*

The International Photographic Congress that meets in London next year should decide on a standard tinting-medium. For the present I have chosen the fastest tinting bromide paper that I could find on the world market for use as the standard.

Practice with the Camera.—In my own camera, I have given the stops their actual solid-angle values, as explained in the preceding article. The unit-stop, or Stop 1, is that now known as $f/64$. Stop 2 is, therefore, that with form $f/45$, etc. The maximum form of light-pencil passed by one of my lenses is that of $f/4$, whose value

in units is 256, the same as that of the smallest opening in the Unit Actinometer.

THE SPEED OF PLATES AND FILMS.—Eastman speed-film, and many of the other roll-films that are on the market, require 256 or 128 seconds, according to the taste of the worker, to photograph normally a subject of normal contrast whose highlight area measures one actino when the unit-stop, or Stop 1, is used for the exposure. I use by preference the time of 256 seconds as the unit-exposure for Eastman film.

How very simple is the truth that *a brighter subject requires less exposure than a weaker one!* Note that this same simplicity is preserved when the values are reduced to purely physical units; since if a one-actino subject requires 256 seconds, a subject four times brighter, measuring four actinos, will require but one-fourth of 256 seconds, or 64 seconds.

How simple, also, is the truth that *a larger stop requires less exposure than a smaller one!* By means of the units of solid-angle values for the stops, the same simplicity is retained in practice; since if Stop 1 requires 64 seconds of exposure, Stop 32—being thirty-two times greater in solid angle or "working-value" than Stop 1—will require but 1/32 of 64 seconds, or 2 seconds. Or, $\frac{256}{4 \times 32} = 2$ (seconds), the exposures.

In this way, exposure in photography is reduced to the same fundamental simplicity as the following problem in labor: If one man working one hour per day requires 256 days to do a certain task, how long will it require 32 men to perform it if they work 4 hours per day? Two days, since 256 divided by 4 and by 32 equals 2.

We have in nature light from the sky, light from windows, light reflected from areas, light shining through small openings, light from flames, and the intensity resulting from lens-stops. There is one scheme of action for all these conditions in nature, and the fundamental truth is this: *Things in nature are illuminated by the rays of light that converge upon them from these luminous sources or expanses that occupy the space which confronts them.*

The point-source theory of light-intensity is entirely irrelevant to the matter of intensity in nature. It hides nature entirely from the mind of every student of physics in the schools. There is not today, nor can there ever be, any popular conception of light-intensity as it is created in nature, nor any scientific practice of photography, so long as the mental picture of diverging rays is used in the schools in explaining light-intensity.

In another article, the simplicity of the Hemispheric Theory in actual work with the camera will be shown by illustrations with explanatory data and suggestions.

Camera Club Profits

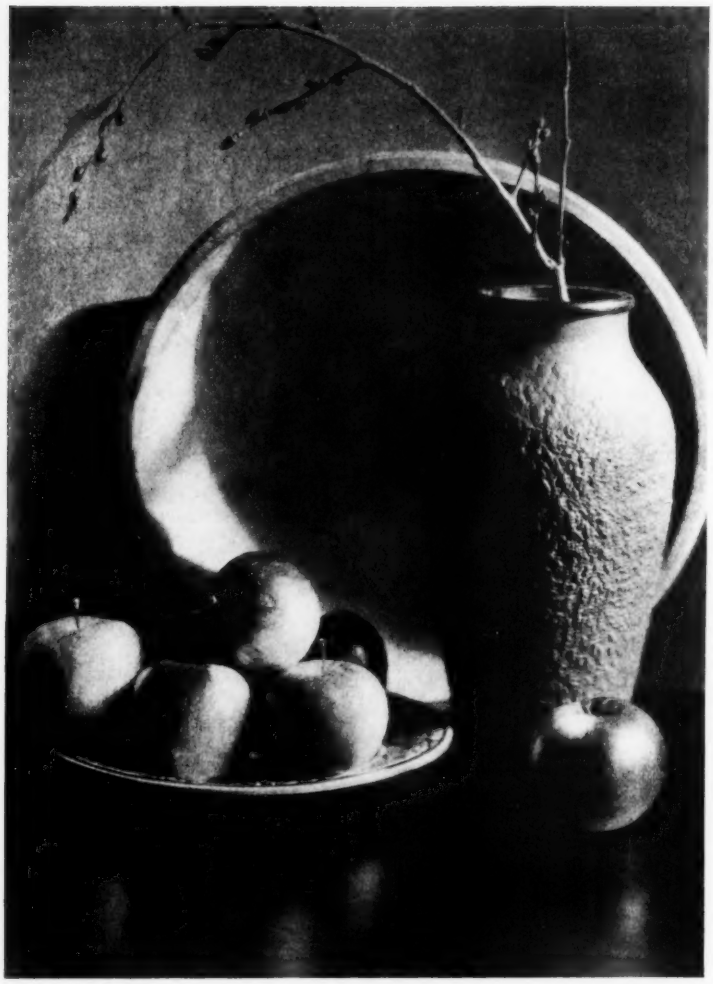
J. E. BULLARD

DURING the past fifty years tremendous scientific and industrial progress has been made. Since the printing-press and photography have come into common use, more progress has been made than during the entire previous history of mankind. The reason for this is that the printing-press and photography have aided immensely in the exchange of information.

In the days when the chemist worked by himself, and even in secret, progress was slow. As soon as chemists began to work together and to exchange information, there was a marked difference.

The past fifty years have been characterized by the forming of associations for the purpose of working together. There are all sorts of scientific and engineering associations. No profession is without its local and national associations. In industry there are manufacturers' associations, retailers' associations, wholesalers' associations, advertising men's associations, chambers of commerce, and no end of other associations.

The fact that progress has become so much greater as the number and effectiveness of associations has increased, surely points to the value of these associations. Much more can be done when brains and experience are combined than can be when each individual works alone and relies entirely upon his own brains and experience. Even the smallest association can do a great deal of good for its members



STILL-LIFE
U. STEPHEN JOHNSON
HONORABLE MENTION—ARTIFICIAL LIGHT PHOTOGRAPHS

simply by bringing them together and promoting exchange of information.

Camera clubs are associations of individuals interested in photography. The main profits from these clubs are the bringing together of these individuals so that there may be a freer exchange of information and experience.

Therefore, the club does not have to be large or to have a great deal of equipment. Though there are no more than a dozen members, and the meetings are held in the homes of the members, the club may be a real success as far as the upbuilding of the members is concerned. The work each member does steadily improves, and he is soon able to turn out pictures he might never even have attempted had it not been for this association with other photographers in the club.

One mistake that is made when organising a new club is to feel that a large membership is necessary, that permanent quarters must be secured, and that meetings must be held at which nationally known authorities shall speak. In some cases starting out with these objects in view at the beginning proves fatal to the club.

There is a city of some 200,000 in which several camera clubs have been formed. Each time the organisers started out with high aims. A few who were intensely interested in photography got together and organised. In a number of instances, they engaged quarters at once, and purchased equipment for darkroom work. The expense incurred made it necessary either to have high membership dues, or to obtain a large number of members. In this city the usual course has been to begin a membership drive at once. None too much discrimination has been observed in getting members. Anyone willing to pay the first year's dues was gladly taken into the club.

For a year or two, or perhaps for several years, each of these clubs flourished. Then a lack of interest began to be apparent. Fewer attended the meetings; it became harder and harder to collect the dues from the members, and new drives for membership failed to bear fruit. Eventually the club dissolved, the members most interested in photography bought at low prices the equipment that had been installed, and the club was no more.

The trouble with this course is largely one of taking on too much expense at the very beginning. The problem then becomes one of meeting this expense rather than conducting the club in such a manner that each and every member can get the most good out of it.

The last camera club to be started in this city took on no expense at all. It has no equipment and pays nothing for rooms in which to meet. Dues are charged for the purpose of defraying present expenses and for creating a fund with which to buy equipment sometime in the future when permanent quarters are obtained. No drive is being made for members, but all those interested in photography—those really trying to better the work they are doing—are welcome to become members. The attitude is being taken of allowing prospective members to seek the club rather than for the club to seek members.

Frequent photographic trips are made, and monthly meetings are held. It has been the practice to have the members themselves give talks at these meetings, and this is proving advantageous. It is being found that certain members know much more about the subject than it has been suspected they knew. The members are getting much better acquainted with each other when each does his part in giving a talk, and there is a greater feeling of respect toward the other members by each member. A solid foundation is being laid for a permanent club that is due to grow and prosper.

Two annual exhibitions of prints are being held. The first one brought out a higher quality of pictures than was expected. It was open to the public for a few hours one night, and a number of people who had lost interest in photography displayed renewed interest and stated that they were going to get out their cameras and see what they could do.

This particular club is composed of members of the local engineering society—a society which the average person would be likely to believe offered little opportunity for a camera club as part of its activities. No one can, of course, become a member of the club unless he is also a member of the society. The associate membership of this society, however, is composed of those not actively engaged in engineering, but who are interested in some part of it; and this means that nearly anyone can become an associate member.

After he joins the society and pays his dues, he can become a member of the camera club by paying its dues. The club, of course, has the use of the society rooms to hold its meetings and to hang the pictures in the exhibition. The success of the club indicates that similar clubs can be started in the same way among the membership of any association, especially one having permanent quarters. In towns where there are now no camera clubs, this appears to be a good way to solve the problem of having a really worth-while club.

There are certain features of a club that this

one has demonstrated as being of real value to the members. One is getting outdoors together at convenient times for the purpose of making photographs. Another is the exchange of information the members have gained through study and experience. A third is the stimulation to better work which the competitive exhibitions afford.

All the activities of this club, except possibly the displaying of the exhibition-pictures, could be carried on, even if there were no regular meeting-rooms and the meetings were held in the homes of the members. It is necessary, of course, to have some suitable place for hanging the pictures, and it is desirable to have it a place that can be open to the public. Even this function, however, can be performed without permanent quarters for the club. One of the dealers in town is likely to have wall-space somewhere in his establishment which he will be only too glad to donate for the purpose of showing the pictures. So, even without permanent quarters, the club may be able to hold public exhibitions.

This does not mean that a club should not provide itself with permanent quarters as soon as possible, have equipment of its own, and possess darkroom-facilities. What it does mean is that most of the profits of a camera club come from other sources than permanent equipment.

In this city it has been demonstrated that good quarters and ample equipment will not keep a club alive. It is now being demonstrated that with no equipment, but with activities that help the members to improve their photographic work, the club is proving of real profit to the members.

The profit from associations comes not from any physical equipment that may be possessed, but rather from the exchange of information, the forming of closer friendships, and the assistance given each other by the members toward doing better and better work. This, in fact, is about all an association can do. No physical equipment is needed, and may even prove to be a liability before it becomes apparent that it is necessary in order that the members may be of greater help to each other. It is the type of members in the club, the degree of interest they have in photography, and the intensity of their determination to do better work by helping each other that determine the ultimate success of a club of any sort. Given these three, everything else that is really needed will eventually become available. A small membership, if it is composed of people who work together, is far better than a large membership composed of those who take only little interest in photography or the photographic work other members are doing.

Spacious quarters, with several darkrooms, enlarging-apparatus, and every possible facility, a thousand dollars' worth of equipment, and two or three hundred dollars a month in rent will not make the members any better as picture-makers, unless those members are intensely interested and are doing their utmost to help each other. The greatest profits from any camera club come from working together. Five or six amateur photographers, a dozen, a score, can get together and organise a really worthwhile club with small dues, but with high value to the members. The big thing for such a club to do is to gather information and to exchange it. There is no town too small for the forming of a club. There are cities so large that it may be wise to form new, small, and more intimate clubs than those now already existing. Perhaps these small, intimate clubs may be divisions of the large club and composed of a few members whose interests run in certain directions.

Animals in Photography

WILLIAM P. MATTERN

FOUND—The perfect exposure-meter! Amateurs who quibble over the meager time they permit the blue rays of a midsummer sun to act upon their photographic films and plates need never again fear that any valuable daylight will be wasted. Hearken ye to Edwin E. Slosson, of none other than *Collier's Weekly;* director, in fact, of science (?) service—whatever that means. Mr. Slosson passes this along in two paragraphs:

"Hints of how to make handy articles out of unused things about the house are always welcome. So I pass on the report I find in a French scientific journal of a photographer who employs his cat as an exposure-meter.

"He is a professional maker of picture post-cards, and found, as we all have, that even the best photometers are likely to be misleading at times.

"Noticing how sensitive the iris-diaphragm of his cat was towards variations of illumination,

GRAND CANYON
P. A. MAC DONOUGH
CHIEF PHOTOGRAPHER, U. S. NAVY

he fitted a hood over its head with two windows for eyes, and rigged in front a simple apparatus for measuring the diameter of the pupil.

"So now he takes the cat with him in a satchel when on a photographing tour. When he sets up his camera on its tripod in front of the desired view, he sets up the cat beside it on its tetrapod, and reads off the number of the stop the animal is using. Then he times his exposure accordingly, with assurance of getting a good plate."

And there you have it! But not to be outdone by any disciple of Daguerre, we have made several tests which seem to indicate that Maltese kittens are about the most accurate for indoor exposures, and Angoras are preferable in a very bright sun, or along the seashore. Common alley cats are good for ordinary street-scenes.

Along other lines of experimentation, it developed that for the photographer lacking the more common accessories, domestic animals may be used almost without limit in the studio and in the field.

We have spent several weeks in the company of a cow in our quest for scientific aids to the photographic art, and have made certain discoveries. It is quite widely known that this most retiring barnyard animal dines in installments, as it were—taking its food in the usual way, but retiring after its meal for further mastication. This latter process is called "chewing its cud." Our investigation revealed that a cow while chewing its cud times itself instinctively to exactly two-up-and-down movements of the jaw per second. It will be seen immediately that for time-exposures on cloudy days afield, a cow as companion would be an invaluable aid to good pictures. For darkroom use, however, it would be advisable to tie the bull—er, that is, the cow—*inside*, reversing the procedure usually advocated by unappreciative friends. An amateur with genuine enthusiasm could assure himself of the very finest results photographically, if expense is no object, by acquiring the following for field-work:

1 (One) Camel, and the higher the bump the better, for procuring proper elevation for photographing buildings, etc.

1 (One) Tapeworm, full grown, for distance finding. Or if the photographer possesses an old flivver with a reliable mileage meter, the latter may be used instead.

1 (One) Kangaroo, fully developed, to carry plateholders.

For studio-work, especially in the darkroom, a horse with a full tail and a multiplicity of flies can be used for drying plates and films with a little application of uncommon sense.

Fireflies, if properly trained, can be used where illumination is poor to great advantage. For general work, the fireflies or "lightning bugs" may be kept in paper bags—not opaque—a certain number to a bag, and used as deemed desirable. They can be rated according to their power-plant output, or even trained for artificial "flashlight" photography. And so on—*ad infinitum*.

Two Open Markets for the Amateur

JAMES P. MARSHALL

AMERISTS, in general, may be divided into three classes: the professional, to whom photography is primarily his bread and butter—not in the least meaning that the gentleman may not be an artist; the "pure" amateur, to whom photography is a fascinating hobby, and who would scorn to commercialise his skill; and the amateur with a leaning toward practicality, who enjoys the science for its own sake and yet who welcomes an opportunity to make it a self-supporting hobby, or, indeed, a means to a partial income. It is to the last of these, the practical amateur, that this paper is addressed, with the hope that it will add to his store of ways and means, and incidentally to his wealth.

Much has been written by excellent authorities on the subject of making the camera a profitable tool; but many of these suggestions are rather difficult for all to follow. Prize-contests are necessarily limited in scope and in the number of available prizes. Photographically illustrated articles are likewise difficult for some who have neither the training nor the inclination to collect such material, which, after all, is concerned not essentially with photography, but rather with journalism. However, two possibilities there are, which may be found in any city or town of average size, the extent of the possibility depending mostly on the "go-get-iveness" of the amateur.

Automobile-accidents make one profitable line. True, it is only by mere chance that the amateur may snap the actual accident at its scene; but many an owner would be glad to

employ him to photograph a damaged car before repair-work is begun, provided the owner is made acquainted with the advantages of having such a record. Such a photograph becomes valuable when the owner makes a subsequent claim for damages; for it presents a picture of the damaged car and a record of the injury. On the other hand, an operator admittedly at fault may himself be protected from an exorbitant claim by having in his possession a picture of the other car involved. Thus both parties involved in an accident become prospective clients of the photographer.

There is yet another possibility in this sort of work. The amateur will not have made many such photographs without finding himself subconsciously deciding on the manner of the accident, particularly so if he has at his command a view of each of the damaged cars. The length and depth of dents, the angles of various broken and twisted parts, all go to show the relative positions of the cars at the moment of impact. With such proofs at hand, the photographer's client may be able definitely to prove which driver was at fault, and so to establish a foundation for his damage claim or, at least, to satisfy himself that he was actually at fault, whichever the case may be.

Locating clients and selling a photographic service of this sort must necessarily call for some alertness and salesmanship on the part of the amateur. A careful perusal of the newspapers, an acquaintance at police-stations, and the friendly interest of various repair men will furnish numerous leads to possible clients. As for the salesmanship, each to his own method. Experience and perseverance will soon efface any diffidence that one may feel about approaching different people.

The second suggestion for putting the camera to work is based on a whim of human nature—the delight of a new possession. When that new possession is a home—well, the secret is out!

One must needs be a poor salesman, indeed, if he cannot persuade a new home-owner to order a dozen prints of the prized object. Ten to one, he has relatives, all kinds of them, and friends, and to each he is eager to show *his* place. If one can but catch him at the psychological moment, when the property is new, then the sale is three-quarters made without saying a word.

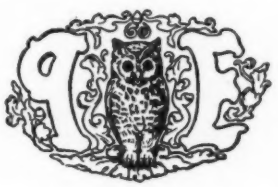
Newspapers publish city-hall records, and records of property-transfers; and, if one is near a registry of deeds, he may look them up himself. Then, too, one may make the acquaintance of real-estate dealers—who, by the way, may be in a position to place some work for themselves—and from them get the desired information. Of course, not all property-transfers will be found to be made to new home-owners; but a comfortable percentage will prove to be possible customers.

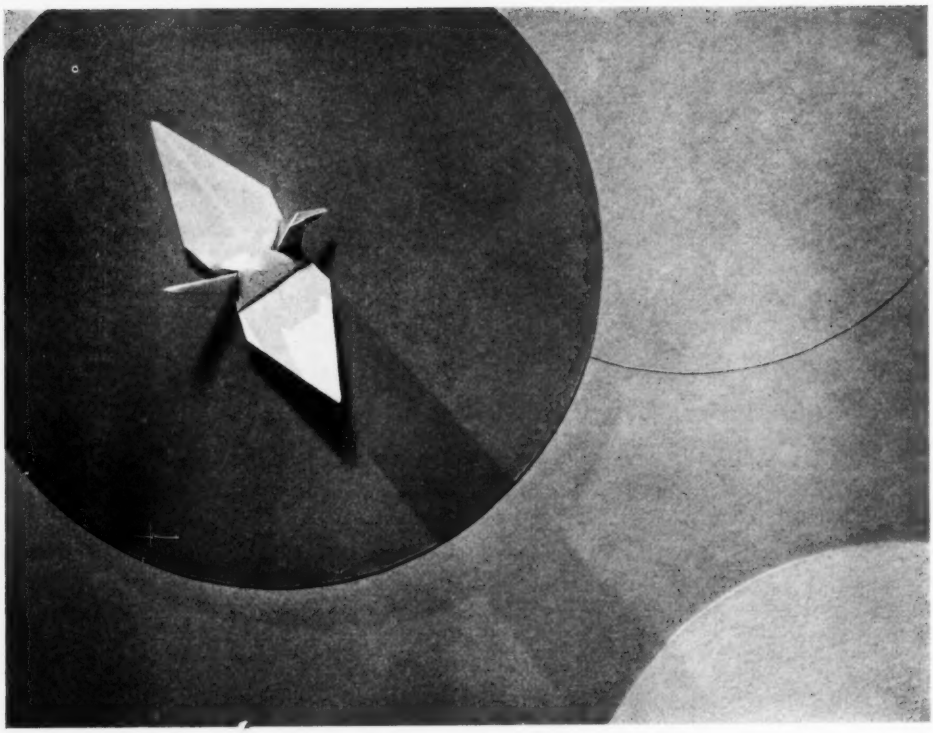
A Sunday drive, or, indeed, any pleasure drive may add to one's store of prospects. If one sees a new cottage under construction, it will be well worth while to note its location and to make it the objective of a subsequent call. A notebook kept for such a purpose will soon reach such proportions that one may check up on a number of growing homes clustered in a certain locality. When signs of actual habitation first appear, sell your service! Your chances are good, even though the occupants are merely tenants; for the home is new to them, and so becomes an object of pride.

For the two services mentioned, I have found the postcard size of picture to be adequate and popular. The pictures are large enough to require no enlargement unless it is particularly desired by certain customers, and the postcard size may be produced at a price that pleases.

The first-mentioned service must usually be sold on order without first submitting samples; also, the work may require one to go well out of his normal route to make the exposures, and at a time stipulated by his client. One must then scale his prices so that they will not be prohibitive and yet so that they will yield him a fair return for the time and material expended.

On the other hand, photographs of homes may sell better if one can offer an attractive sample at the time when he solicits the order. In the latter case the amateur may make exposures of several possible sales, develop them, and prepare his samples; and if the results are pleasing he may then solicit orders for the entire lot in one afternoon or evening.





THE PAPER-BIRD
H. KIRA

EDITORIAL

The Photographic Harvest-Season

AT this time of the year, thousands of vacationists are turning homeward to their tasks. Most of them will bring back some form of pictorial record of their holiday experiences. Others will return with few, if any, good pictures. Lenses, cameras, accessories, and manufacturers will be praised or censured according to the results which the individual vacationist obtained. Comparatively few will consider themselves responsible for whatever failure attended their photographic efforts. Doubtless this is human nature running true to form; but it is hardly the best way to arrive at a true valuation of the summer's photographic work. Really, it is rather a critical time for many amateur photographers. If the results are pleasing and satisfactory, photography retains an enthusiastic supporter; if not, photography loses a possible Pirie MacDonald, Dr. C. E. K. Mees, or Leonard Missone. Unfortunately, we are very likely to drop that which proves to be too great a task to master, especially when the activity in question is an avocation.

It is well worth several evenings' time to go over the negatives and prints made while away. Often a study of them will prove to be invaluable. Those vacationists who were methodical and set down the time, place, and photographic data for each exposure will find that the labor of arranging the pictorial record of the holiday season is reduced one-half. Obviously, it is of no advantage to waste time on pictures which are out of focus, greatly undertimed, or overexposed. It may be safely assumed in most cases that the owner of the camera was at fault at the time the exposure was made.

It is well to approach the checking up of the summer's photographic effort on the basis of a return from an investment. Whether the equipment cost ten dollars or one hundred dollars, there should be a reasonable dividend in good pictures and satisfaction. If this dividend is not forthcoming, it is good business to attempt to find the reason. Furthermore, the blame, if any, for a poor photographic harvest should be placed squarely where it belongs—even if it prove to be the vacationist himself.

A good harvest merits careful preservation, and the time consumed in titling negatives and prints is the best way to do it in the case of photography. Then, too, the employment of durable and well-arranged albums is strongly recommended. However, let the vacationist be Spartan-like in his rejection of prints which do not meet artistic and technical requirements. This does not imply the rejection of good record snapshots of a camping-trip; yet it does mean that it is a waste of time and effort to include for permanent preservation any picture for which apologies must be made. It is understood that there may be exceptions, as in the case of a hurried exposure at a running deer or the flight of a flock of wild geese. However, in general, if the photographic harvest is of any value, it is of importance to retain only that part of it which will be a satisfaction in the years to come.

When the harvest of this holiday season is safely put away, it should not be assumed that all photographic activity must cease until another year has passed. The fall, winter, and spring months offer abundant opportunities. To be sure, weather-conditions may not be of the best and then, too, a city environment may not supply subject-material so attractive as that to be found at the seashore, in the mountains, or overseas. However, those who have eyes to see and hearts to understand will find abundant material wherever they may be situated.

It is to be hoped that those who were using a camera for the first time this summer will not be discouraged should their photographic harvest be a disappointment. Even experts are not always successful; but the reason that they are considered to be experts is because they had the courage to carry on when they were sorely tempted to give up during the trying period of their beginners' days.

Perhaps the greatest satisfaction which the vacationist can have is to look over his photographic harvest and realise that its success is due entirely to attention to details, which so often spells success in other fields of endeavor. Moreover, he will note that the time he spent with his instruction-book, his textbook on pictorial composition, and his camera before leaving his home had much to do with his bountiful harvest of good pictures. To those who will take the time to master photographic fundamentals there will always be a happy and rich photographic harvest-season.

ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA MAGAZINE, Advanced Competition
Wolfeboro, New Hampshire, U.S.A.

Prizes

First Prize: Value $10.00.
Second Prize: Value $5.00.
Third Prize: Value $3.00.

Honorable Mention: (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the publishers.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive an Honorable Mention Certificate. Those who win ten of these certificates and send them to us to be recorded will receive a neat silver cup, suitably engraved. There is no time-limit. However, ten certificates must accompany all requests for the cup.

Prizes may be chosen by the winners, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books. If preferred, the winner of a first prize may have a solid silver cup, suitably engraved.

No Prize or Honorable Mention pictures are sold, exchanged or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs, and to responsible organisations for exhibition-purposes, *free of cost.*

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. Not more than two subjects may be entered, but they must represent, throughout, the personal, unaided work of competitors. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered into competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

3. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations and detail. Prints may be mounted or unmounted.

4. Each print must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. Enclose return-postage. Data-blanks sent at request.

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he shall have received official recognition.

Photo-Era Prize Cup

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data.

7. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right-angles to each other.

8. Competitors who have won three first prizes within a twelvemonth become ineligible to receive prize cups in this competition for *one* year thereafter.

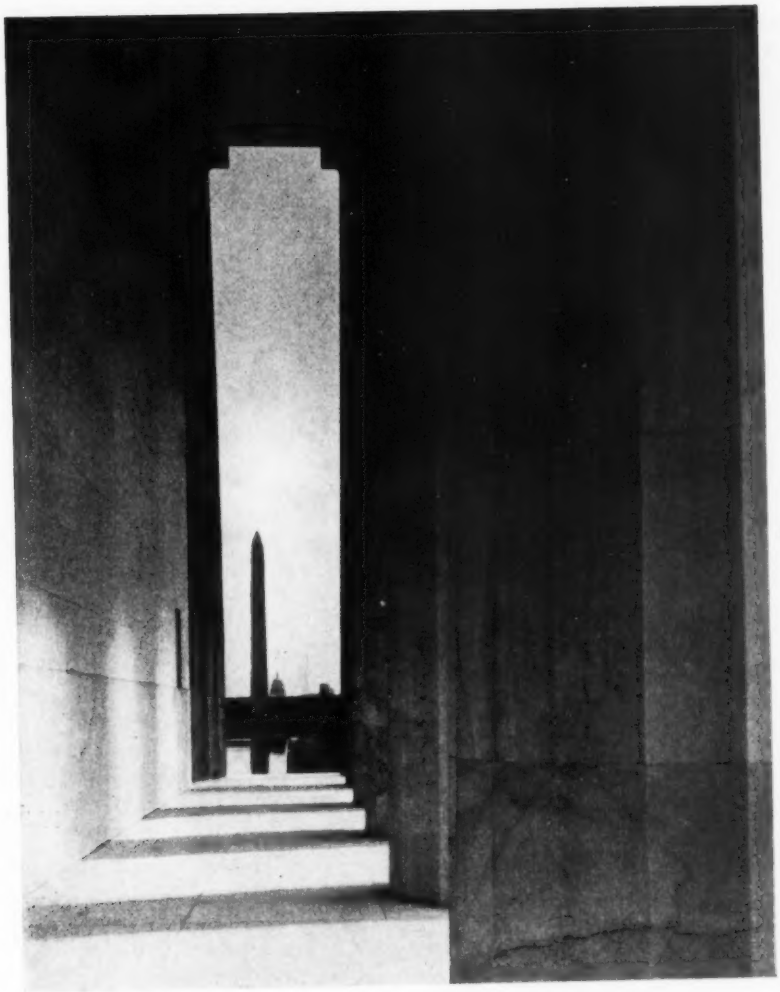
AWARDS—ADVANCED COMPETITION

Subject—ARCHITECTURAL SUBJECTS

Closed June 30, 1928

First Prize . . . . . Donald Wight Beck
Second Prize . . . . . Joseph Petrocelli
Third Prize . . . . . L. J. Creegan

Honorable Mention: Edward Alenius; M. S. Beros; Karl Butka; Mary Callaghan; H. G. Cleveland; C. Frankenberger; Harry Freidberg; George W. French; U. Stephen Johnson; Robert R. Miller; Clifford Norton; M. A. Obremski; Walter E. Owen; Harold T. Parish; Joseph Popino; Henry Sill; Kenneth Dudley Smith; Dr. Max Thorek; Samuel P. Ward; W. A. Watson; R. M. Weller; Russell Westmeyer; James H. Young.



MEMORIALS

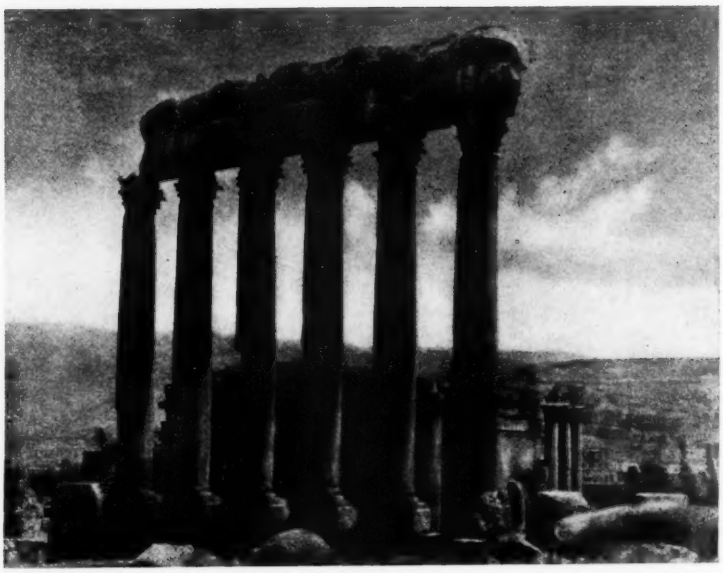
DONALD WIGHT BECK

FIRST PRIZE—ARCHITECTURAL SUBJECTS

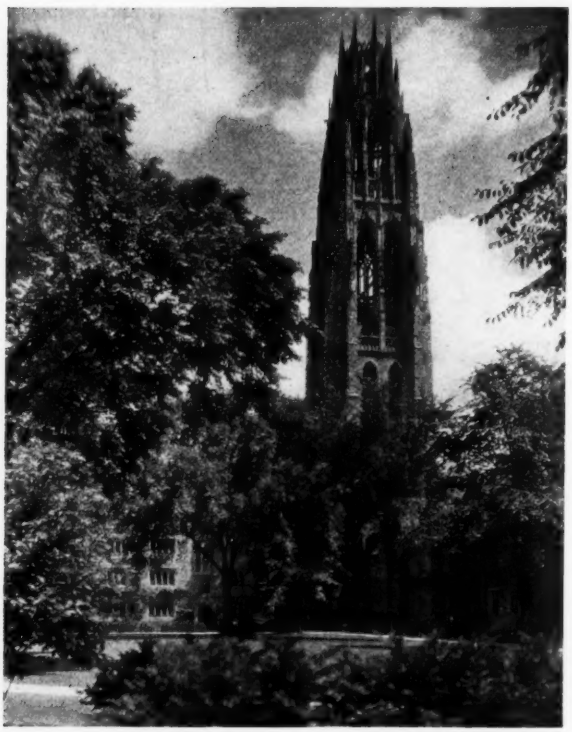
Second Prize

ADVANCED
COMPETITION

ARCHITECTURAL
SUBJECTS



THE GLORY OF BAALBEK — J. PETROCELLI



HARKNESS TOWER — L. J. CREEGAN

Third Prize

ADVANCED
COMPETITION

ARCHITECTURAL
SUBJECTS

SUBJECT FOR NEXT COMPETITION

ADVANCED WORKERS

Subjects for Competition—1928

"My Home." Closed January 31.
"Portraits." Closed February 28.
"Indoor-Genres." Closed March 31.
"Table-Top Photography." Closed April 30.
"Artificial Light Photographs." Closed May 31.
"Architectural Subjects." Closed June 30.
"Pictures of Children." Closed July 31.
"Landscapes." Closed August 31.
"Outdoor-Genres." Closes September 30.
"Animal Pictures." Closes October 31.
"Water-Scenes." Closes November 30.
"Vacation-Pictures." Closes December 31.

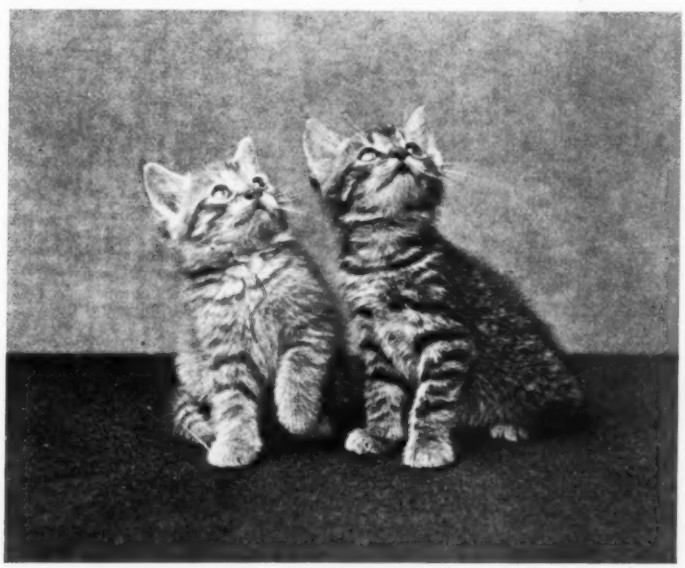
Animal-Pictures

THERE are few men or women who fail to respond to the appeal of a little puppy, kitten, or other pet. Someone has said that the man who does not respond is lacking in those qualities which make him a good citizen and neighbor. Whether or not this be true, I do know that those who like animals, large or small, are very likely to be the type of men and women with whom it is a pleasure to associate. From our past experience in competitions devoted to animals, we learned that virtually every reader was a lover of animals and for that reason enjoyed participating in a competition devoted to animal studies.

It should be noted that this year the subject is limited to animals. Heretofore it has been "domestic pets", which might include birds, gold fish, or little pigs. It was thought best to ask contestants to confine themselves to animals exclusively, so that there might be a more definite objective at which to aim. The illustration on this page will indicate the general type of subject which is eligible to this competition. We wish to point out that we do not desire pictures of animals placed in unnatural positions or dressed up as humans. The thought back of this competition is to encourage the making of pictures of animals which will be natural, attractive, and which possess artistic merit.

Those who have had experience with animals will know that the best pictures are obtained when the subject is neither posed nor afraid. In short, catch the animal in the desired pose by waiting for it to assume the pose. Very true, this may require much time and patience; but the resulting picture will be the better and the more attractive because of this extra effort. Wild or domestic animals and pets are eligible subject-material for this competition.

A. H. BEARDSLEY.



"WHAT'S THAT?" DORIS E. WRIGHT

EXAMPLE OF INTERPRETATON

BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA MAGAZINE, Beginners' Competition
Wolfeboro, New Hampshire, U.S.A.

Prizes

First Prize: Value $7.50.
Second Prize: Value $3.50.

Honorable Mention: (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the publishers.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive an Honorable Mention Certificate. Those who win ten of these certificates and send them to us to be recorded, will receive a neat silver-cup, suitably engraved. There is no time-limit. However, ten certificates must accompany all requests for the cup.

Prizes, chosen by the winner, will be awarded in photo-materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books.

No Prize or Honorable Mention pictures are sold, exchanged or the half-tone plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

Rules

1. This competition is open only to beginners of limited experience with practical camera-activity, and whose work submitted here is without any practical help from friend or professional expert.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints and enlargements up to and including 8 x 10 inches.

4. Prints representing no more than *two* different subjects, for any one competition, and printed in any medium except blue-print, may be entered. Prints may be mounted or unmounted, as desired. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

5. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations.

6. Each print entered must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks sent at request.

7. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he has received official recognition.

8. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with data.

9. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right angles to each other.

PHOTO-ERA MAGAZINE
The American Journal of Photography
Wolfeboro, New Hampshire, U. S. A.

THIS is to certify that an Award of PRIZE
is hereby given to the picture entitled

entered by

in the PHOTO-ERA MAGAZINE Monthly Competition

which closed 192

Editor

PRIZE-WINNERS' CERTIFICATE

PHOTO-ERA MAGAZINE
The American Journal of Photography
Wolfeboro, New Hampshire, U. S. A.

THIS is to certify that an Award of *Honorable Mention*
is hereby given to the picture entitled

entered by

in the PHOTO-ERA MAGAZINE Monthly Competition

which closed 192

Editor

HONORABLE MENTION CERTIFICATE

AWARDS—BEGINNERS' COMPETITION

Subject—MISCELLANEOUS

Closed June 30, 1928

First Prize . . . . . E. W. Porter, Jr.
Second Prize . . . . . A. C. Clark

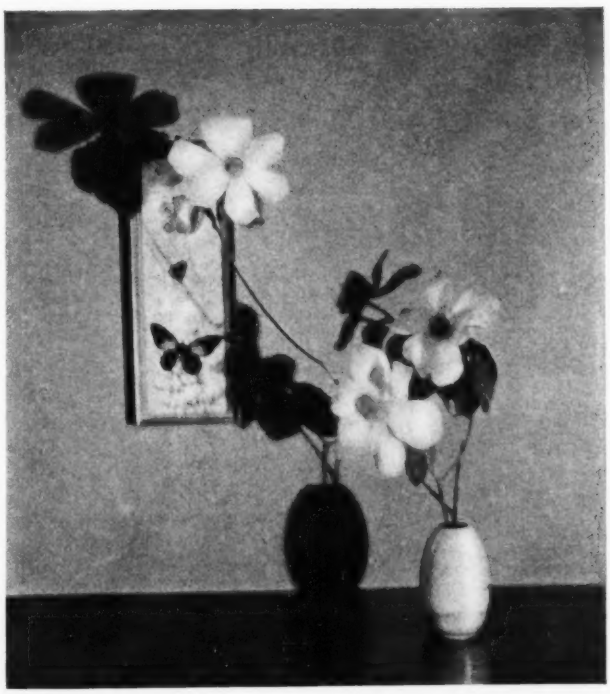
Honorable Mention: C. S. Bourne; V. W. Bullock; I. D. Conklin; Albert Dubinsky; Edward Glaser; John C. Moddejonge; Joseph B. Rattley; Malcolm M. Rorty; C. A. Shaw; Evangeline Day Tienken.

First Prize

BEGINNERS'
COMPETITION

MISCELLANEOUS

CAB-ENTRANCE PENNSYLVANIA STATION — E. W. PORTER, JR.



DOGWOOD — A. W. CLARK

Second Prize

BEGINNERS'
COMPETITION

MISCELLANEOUS

OUR CONTRIBUTING CRITICS

YE OLDE MILL — GEORGE W. DAVIS

THE PICTURE CRITICISED THIS MONTH

Data: Made near Knoxville, Tenn.; Premo camera 100; 6½ x 8½; B. and L. Protar Convertible lens; focal length, 9⅛ inches; stop, F/8; K-2 color screen; August, 11 a.m.; bright light; 5 seconds' exposure; Eastman Ortho-Cut Film; pyro; Azo 3.

***Whoever sends the best criticism** (not over 200 words) before the last day of the current month, will receive from us a three-month subscription to* PHOTO-ERA MAGAZINE.

The winning criticism, in our opinion, is the first one printed below. Criticism should be helpful and courteous.

A THOROUGHLY sound technical foundation is the greatest merit of this picture. We are led unerringly to this conclusion by inspection alone, without the necessity of referring to the published data. Our picture shows unmistakably the ability of photography to render fine gradations of tone with a degree of perfection unapproachable in any other medium. The full scale of tones is present. Mr. Davis has got out of his film and filter all that the manufacturer was able to put into them. Unfortunately, Mr. Davis did not use judgment and selection of the same high order as his technical methods.

This picture is also an interesting and valuable record of an earlier part of American life—one fast disappearing under stress of competition with the great milling establishments of today, such as those at Minneapolis.

After starting so well it seems to be most unfortunate that Mr. Davis omitted the other details necessary to make his picture better from a pictorial standpoint in addition to its being a good technical record. A 6½ x 8½ camera of this type, filter, and tripod (5 seconds' exposure) does not suggest photographic equipment for traveling, except possibly by motor. If not impossible, or too inconvenient, this picture merits a

THROUGH THE SPRING-CURTAIN Y. INAGI

YOUR CRITICISM IS INVITED

Data: Made near Tacoma, Wash.; April, 2 P.M.*; fair light; 2¼ x 3¼ Kodak; 4½-inch Kodak Anastigmat; at F/8; 1/50 second; Kodak Roll Film; M. Q.: print, Rapid Black E.*

second attempt, putting into effect the following changes.

At present a little more than one-fourth of the area is even-toned sky, which is monotonous when the color is lost. This is not the result of failure to catch clouds, for no clouds were there, but is the result of failure to select a day when clouds were in the sky. Choose a bright clear day after a thunder-storm. Then the air is clear, and generally there are beautiful fracto-cumulus clouds in the sky. The methods followed in other respects will render them beautifully and add much to our picture.

In the latitude of Knoxville at eleven o'clock of an August morning, the sun is high in the sky. This gives a flat lighting. Wait until late in the afternoon, when the sun will be low and shine strongly on the end of the mill, while the side will be in shadow. In addition to giving a much stronger lighting, this will also operate to lessen the required exposure, because more light will get in under the tree.

A long exposure was made necessary by the shade under the tree, with the result that the falling water above the wheel looks more like a section of canvas-hose than water. The use of panchromatic film in place of ortho will decrease the filter-factor and thereby the entire exposure. Have the tripod rock steady. Lock the wheel so that it will not move, and then let the water down over the wheel in a cascade of leaping droplets. Build up to the required exposure by a rapid series of short snaps. This method should yield the necessary shadow-detail and at the same time render the moving water in a lifelike manner which will suggest its motion.

Foliage hides a considerable part of the mill, which is our principal object. Try a viewpoint more to the left and a little farther away. Shoot more between the mill and the tree, but retain the tree at the right. Then study the effect on the groundglass.

B. J. JACOBS.

THIS picture is—to use a hackneyed phrase—"well seen". The photographer has a keen sense of beauty. The scene is in itself poetic and appealing, hallowed with time and reminiscent of happy bygone days—charming, arresting, alluring. Mr. Davis has clearly seen and felt the beauty of the spot; he has been unfortunate in utilising photography in conveying his impression to others, because apparently he has not yet mastered the technique of his chosen medium of

(*Continued on page 164*)

OUR ILLUSTRATIONS

ERNEST H. WASHBURN

THE serial articles, "Why I Am a Pictorial Photographer", of which this issue contains the fifth, are bringing to us, in a pleasant way—a more intimate and friendly way—the work of several of our prominent pictorial contributors. They add the personal touch, the "one touch of sympathy", which is but another term for congeniality, that kindles the little flame of friendliness and makes all photographers, in a sense, kin. By learning of the artist's viewpoint and purpose, we become more understandingly appreciative of his work and aims. Dr. Koike's pictures are well-known to us, and we are glad to have him add his own personal word.

His "King's Garden of Winter" is typically Japanese in conception and arrangement, and shows the influence of his inborn liking for nature-subjects and the early training he received in his native Japan. The huge tree with limbs and branches stark against the sky, in fan-shaped outline, dominates the composition, but is well balanced by other trees, so that a harmonious ensemble results. The tone values in the snow are true, as are those of the frost-laden shrubbery. We could wish, perhaps, for a little tone in the sky.

Data: No. 1 Kodak, with Anastigmat lens at F/6.3; exposed 1/25 second, through 3-times screen, on roll-film; rainy day in January, at 2 P.M.; pyro developed; bromide print.

"Buffalo Creek", W. P. Hubbard, has the right things in the right places; but, in our opinion, the contrasts are too violent for harmonious unity. We can appreciate the feeling of atmosphere and perspective, but think correct values equally important. No data.

"Trees by the River" is handled in a similar manner; and what we have said of the previous picture, applies in a certain measure to this, but in a lesser degree. Such a beautiful subject—a choice bit of nature, and well composed—should not be so manipulated as to lose the sense of form; as, for example, in the noble tree at the left. Why subordinate real beauty for mere pattern? No data.

"A New York Sunset", page 126, by Joseph Petrocelli, is colorful and strong. The artist was quick to recognise the supreme moment, and recorded it with skill. It loses nothing by being fairly well defined. No data.

"Chartres Cathedral", by Antoinette B. Hervey, is a well-chosen portion from an architectural masterpiece—one of the great works of all time. It appears to be affected by halation, and we regret the loss of outlines in the nearer column. A different printing medium of lesser contrast ought to give a better and more truthful rendering. The beauty of the subject merits it. No data.

"Still Life", by Walter Hazelton, is cleverly arranged and lighted and of good technique, with the exception of definition, or, rather, want of it. We cannot see the virtue in sacrificing texture, even though the pattern be skillfully wrought, as in this case. No data.

"L'entrée du Bois", by Leonard Missone, appears to depart from this artist's usual custom of depicting his subjects with extreme sharpness. The definition has been subdued by some means. The feeling of bleakness and desolation is relieved by the figures in the roadway, all leading lines converging toward them. The sky-space is extremely void, perhaps intentionally. No data.

"Courtyard, Budapest", by Caroline Goldstein, has been analysed and reconstructed by Mr. Morse, so we shall not comment at length upon it. The same is true of George W. French's "Where Golden Memories Cling". Each of these was commented upon in the April PHOTO-ERA MAGAZINE.

"Indian Bake-Ovens", the first illustration of Part II of Frank Reeves's article, is very interesting, and admirably fulfills the purpose for which it was made. Of course, no attempt at an artistic rendition is to be expected; but the placement of the ovens is correct. Technically, the slight halation at the top might be mentioned, but it at least serves partially to subdue a rather disturbing background.

Data: 5 x 7 Graflex, Eastman Polychrome plate, exposed 1/75 second at F/11 in bright light, at 10.30 A.M.

"The Old Church at Rancho de Taos", is an excellent piece of lens-work, and gives a truthful expression of brilliant sunlight, without harshness, preserving detail in both highlight and shadow. A slight trimming off the sky would help the proportions of the print and possibly a very narrow bit off the bottom.

Data: Camera, plate, and stop as in preceding; exposure, 1/65 at 1.30 P.M.; print 8 x 10, on Novabrom Glossy.

"Couse Studio" afforded a more interesting foreground, and Mr. Reeves made use of it to support his composition. One building appears to be out of perpendicular (or was the camera tilted?). We feel a desire to have more of the tree included, if that were possible.

Data as in preceding, except that the exposure was 1/75, at about 11 A.M.

"Pueblo at Laguna" is in decided contrast to the first three prints. The artist has arranged his subject with excellent taste, and it would be difficult to improve it. To be sure, the clouded sky and the variety of tones in the buildings offered a better opportunity, which Mr. Reeves did not permit to escape his lens, placing his masses of light and dark in the most effective spaces. The perspective is excellent in every way. Altogether, a fine piece of photography.

Data, as before as regards apparatus. Exposure, 1/50 second, F/11, at 3.30 P.M. The advantage of a lower sun for pictorial rendering is well demonstrated.

"Typical Arizona Scene" is another well-composed subject. The diagonal sky-line is pleasingly broken up by the varying heights and sizes of the boulders. A good balance is effected by the shadows cast at an opposing angle and continued through the vegetation into the foreground. What a pity a few suitable clouds had not come along at the opportune moment, as in the picture above!

Data, same camera, lens, plate, hour, and lighting as previously; exposure, 1/40 at F/16.

"Joe Yellowfoot" is a remarkably fine Indian-portrait. Every detail is of interest, but not offensive. Yellowfoot's strong features are well brought out, and the interest is concentrated there by the highly

lighted headdress. The beaded collar forms a pleasing variation, and the large feathers draped over it obviate any tendency to obtrusiveness. The hands, although relaxed, are strong. The body-pose is graceful, alert, and well poised, suggesting arrested motion, yet in perfect repose. The sweeping lower end of the headdress effectually balances the figure, aided by the dark shadow. It is unfortunate the left foot is not all included. It would be difficult to find, we think, a better or more characteristic piece of Indian-portraiture.

Data, 5 x 7 Graflex; Graf Variable lens; sharp-stop F/8, 1/50 second, at about 5.30 P.M.; Polychrome plate, tank developed; enlarged to 8 x 10 on Novabrom.

"Inscription Rock", page 140. These two are beyond criticism, and of excellent technical worth. Mr. Reeves describes them in the context.

Data: 5 x 7 View-camera, Eastman commercial film, 1/25 second at F/11, in bright light, at 2 P.M.

The three prints illustrating Willard J. Fisher's article are amply covered in the context and are extremely interesting, whether one is astronomically inclined or otherwise. Amateur photographers, or astromomers intending to practice this branch of photography, will find much valuable information.

"Still Life", page 146, has some of the elements of that on page 128, viz., a circular dish, an urn, and a branch of a tree. We feel the present artist has made a more stable composition by introducing the plate of fruit and the apple on the table. The base, however, appears to suffer from a lack of sufficient exposure to indicate the surface quality of the table-top, which we assume it to be. Made by the light of one 75-watt frosted bulb and one 200-watt clear bulb, the latter to give a sunlight effect. Camera, Korona View, 8 x 10, with Velostigmat F/4.5, at F/16. An exposure of 30 seconds was given on Eastman Commercial Ortho film, and development was in Ortol. A 4-times Agfa screen was used. Enlarged on Haloid Parchment Black Buff.

"Grand Canyon", page 149, impresses one as a perfect example of aëro-photography and emphasises the old saying that "it all depends upon the point of view". We puny mortals, creeping about upon the surface of the earth, have had impressed upon us the stupendous size and height of the eminences and the tremendous depth of the gullies in the Grand Canyon. Yet from a sufficient distance above, when seen at the same time as vast areas of surrounding terrain, they appear, relatively, of rather ordinary dimensions. We are prone to reflect on the theory of relativity—that nothing in this universe is absolute, but only relative to something else, be it in size, color, or other attribute. Nevertheless, we should all be quick to grasp the opportunity, should it come our way, to view this inspiring scene from an airplane. The stereoscopic effect in the near peaks and in the clouds are unusually marked. We regret that no data can be given.

"The Paper Bird", when considered as a study in design, is interesting and unique. No data.

Advanced Workers' Competition

DONALD WIGHT BECK has won the first award with "Memorials", page 155, and we feel he merited it because of his originality of treatment and the boldness of the design, as well as by the perfect technique shown. The different masses in tone and size are well arranged, and the point of interest is strongly punctuated by the monument in the distance. What at first appears to be distortion in the form of the opening between the farthest columns, is seen, upon careful study, to be caused by the tapering of the Doric columns, making, with the aid of the capitals and short horizontal line across the top, an extremely interesting design, relieved in bold contrast by the dark masses surrounding it.

Data: Ica 9 x 12 cm. camera, Zeiss lens, 6-inch focus, stop F/16; exposure 1/5 second, through K-1 screen, at 4 P.M. in August, on Agfa film; Pyro developer; chloro-bromide enlargement.

"The Glory of Baalbek", which Joseph Petrocelli has brought home in the "little black box" from ancient Syria, is a strong second in this competition. The imposing ruin of the ancient colonnade, with the other ruins beyond in the middle-ground, brings us, in a form which it would be impossible to describe adequately in words, the glory that was Baalbek. This city was sacked in 748 A.D. and again in 1400 A.D., and the present picture shows the remains of the once magnificent temple of which there were three. The placement of the principal object in the composition is correct and in good perspective. The low sky-line assists by adding to the appearance of height in the columns, which is further helped by the lower situation of the farther temple. In rendering the sky darker in tone toward the zenith, the artist avoided garishness and over-contrast with the colonnade, and got that fleecy cloud in the right place for the best effect. One wonders how he got it without using a screen.

Data: Made at 2 P.M. in bright sunlight, with a 6 x 9 cm. Ihagee camera, Carl Zeiss F/4.5 Tessar, at stop F/9; exposure, 1/100 second on film; without screen, Rodinal developer; Wellington Bromoil print.

"Harkness Tower", by L. J. Creegan, is a beautiful example of this type of work, and ranks with the finest of this class of photography done by well-known English photographers specialising in it. The selection of viewpoint seems to us just right, and the artist exercised skill in technical treatment, particularly in holding the clouds, which lend atmosphere. We especially like the pinnacles of the tower being brought close to the top margin, emphasising height. This can be further accentuated by slightly narrowing the width of the print, taking about one-quarter inch from the left side, which would sacrifice nothing of particular importance. By reducing the size of the tree-mass, we increase the apparent bulk of the tower. A slightly deeper tone in the lower third will further accent the tower. Photographers who have not visited Yale University, at New Haven, Conn., where this beautiful modern expression of noble architecture is situated, should avail themselves of the first opportunity to do so. The Harkness Memorial Quadrangle, of which this tower is the supreme motif, is replete with an endless variety of architectural gems, in the best possible setting.

Data: Made with Ica Trona camera, Carl Zeiss F/4.5 Tessar lens, with a Zeiss Proxar wide-angle supplementary lens on the front of Tessar and Zeiss 5-times filter over the Proxar; exposure, ½ second, at F/11, in June, 3 P.M., bright light with clouds, on Agfa film-pack; developed in Rodinal, and enlarged on Barnet Cream Crayon Rough.

Considering this competition as a whole, it is of singular interest that each of the prize-winners selected a subject which is a memorial; the first award bearing that title.

Beginners' Competition

"CAB-ENTRANCE, PENNSYLVANIA STATION", by E. W. Porter, Jr., is the first-award selection. The artist showed discrimination in his composition, or arrangement, and did well to record it without harshness,

which would have attended under-exposure, a fault which he carefully avoided. At the same time he included human figures in motion without blur. The streamers of sunlight convert an ordinarily prosaic subject into one of exceptional interest, which Mr. Porter quickly recognised. We wish he had trimmed his print in accordance with the vertical lines of his subject. At present it is out of plumb. The first and second light-globe might be toned down just a "wee bit" with good effect.

Data: R. B. Graflex, 3¼ x 4¼, with Kodak F/4.5 lens of 7½-inch focus, at full-opening; exposure 1/5 second (no filter), on Eastman Panchromatic cut-film; A. B. C. Pyro developer, in tank; enlarged on Eastman Portrait Bromide, Old Master.

"Dogwood", by A. W. Clark, which wins second prize, seems to us a good start for a beginner in this difficult field. The arrangement is original in respect to the manner of placing the cast shadows. That of the vase on the background, and its reflection in the table-top, is quite unusual, as is also the great flower-shadow at the upper left. The introduction of the butterfly-picture is novel. Trimming about one-quarter inch from the right would do no harm.

Data: Made indoors on a table-top, with Wollensak Velostigmat lens of 5¼-inch focus; exposure, 20 seconds at stop F/8, by 100-watt electric lamp, on Eastman film-pack; developed in pyro, and enlarged on P. M. C. bromide paper.

Our Contributing Critics

(*Continued from page 161*)

interpretation. A sense of beauty is born in the soul and can be rarely acquired; but details of technique are easily mastered by anyone with diligence and ambition. The man that made this picture, I should say, has the soul of an artist. I congratulate him.

But from the viewpoint of composition the print has several defects: (1) It lacks a suitable foreground that should lead the eye into the picture and furnish a pictorial support and justification for its existence. (2) The upright and noticeable corner of the building forms a vertical that divides the picture into exact halves. True pictorialism is quite distinct from geometry, and anything suggesting mathematics is *pro tanto* offensive. (3) The large empty space in the upper left corner is a blemish, as it is meaningless and useless.

Suggestion: Take a piece of cardboard with an interior right-angle and lay it over the picture. Trim about one-half an inch off the left side, leaving, however, some apparent support for the end of the bridge to rest on. Take off an inch or an inch and a quarter from the top.

From the viewpoint of technique, the picture lacks proper contrast, probably due to over-exposure or under-development. Figuring out the exposure according to Burroughs-Wellcome, it should be between 1/50 and 1/25 of a second. The data say that the exposure was 5 seconds with a K-2 screen at F/8. I don't remember just how many times that color-screen requires; but without the screen the exposure would be at least one hundred times too much, and I suspect that it was at least ten times too much with the screen.

Other serious defects are the lack of shadows and obvious sunshine-effects. The data say it was made at 11 A.M—about the worst time possible from a pictorial point of view; 8 A.M. or 4 P.M. might have given charming luminous shadows. There ought to be decided contrasts between the sparkling sunlight on the water of the brook and the soft shade cast by the tree; but it is flattened out and lost in this picture.

Suggestion: For composition, study your picture carefully on the groundglass, disregarding color-effects (you might even view it through blue glass). Use a meter for time of exposure. Develop for contrast or not, as needed.

E. L. C. Morse.

There are very few subjects which will yield as picturesque a scene as a mill, and very few photographers who have been fortunate enough to secure such a picture.

This little old mill, with its pleasant surroundings, as portrayed by Mr. Davis, has great pictorial possibilities, if only another angle had been chosen from which to make the exposure, eliminating the expanse of white sky dominating almost a quarter of the picture, which distracts the attention from the main subject. A half-inch trimming from the left border is suggested to partially overcome this trouble. An experiment at printing in a few clouds from another cloud-negative might have been attempted, preferably tall cumulus clouds, since the picture was made in August.

Judging from the data, it seems that the negative was greatly over-exposed. The very whiteness of the brook, and the water spilling over the side of the water-wheel, the lack of detail in the highlights, and the generally soft appearance of the entire picture, all suggest this over-exposure. Mr. Davis probably erred on exposure calculations with the filter used. A K-2 filter necessitates about thrice the usual time. An exposure-meter properly consulted would have shown that a shutter-speed of not over one second would have produced a fully timed negative under the conditions.

Curt Foerster.

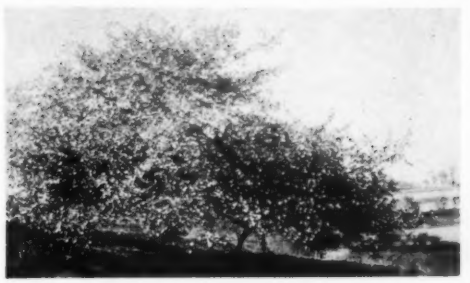
Physical equipment, and a knowledge of how to use it within the limits of its adequacy, a thorough understanding of the principles involved in obtaining contributory values, and a mind atuned to the emotional significance of the theme must be at the command of the would-be pictorialist. How these elements function conjointly in the effort presented is our inquiry.

An appreciative consideration approves the fine tonal values of the landscape and mill; the selected viewpoint, which includes the subject and its locality and serves, in part, to mask its crudities; the softness of delineation which gives detail without wiriness; and an absence of nonessentials. But a featureless sky and water without character are present. The reason for the use of so strong a filter is not clear, and it necessitated too long an exposure, particularly of the water, a feature which should have been emphasised.

Trimming the print just above the roof to concentrate the interest and toning down the highlights at the lower right corner are advised. Yet, even with these improvements, the picture does not rise above the materials composing it. Its value is fixed by technical rather than emotional expression, and it remains a pleasing record. The title includes words no longer in good usage and savors somewhat of affectation.

Suggestively, try another exposure of the water-wheel and its immediate surroundings, as it is the feature of interest and the real reason for the picture. Use a soft-focus lens, with morning or evening lighting for shadow-effects, and give a correct exposure for falling water.

J. W. Adair.



SPRING—SUMMER—WINTER ANONYMOUS

Spring—Summer—Winter

For some months we have been looking for the maker of the picture reproduced on this page. We recall distinctly some correspondence with regard to it; but, try as we will, we can find no record of the maker's name or address. The idea contained in the illustration is an excellent one. Many of us neglect to take into consideration that the seasons of the year have much to do with our subject-material and the appeal which it makes to us and others. In the example before us is the suggestion that even one tree is worth careful study at different times of the year.

We believe that there are many subjects of great pictorial value which should be studied and photographed at appropriate times during the year. Very often there are striking contrasts which not only are very interesting but extremely attractive. This is particularly true of the rather, to us, prosaic subjects which are close to one's home. Even a barn, after a frost-storm and with shadows thrown upon it from near-by trees, becomes a striking pictorial subject in the sunlight of a cold winter morning. We hope that the maker of the picture on this page will make himself or herself known to us so that we can give credit where credit is due. In the meantime we offer our apologies for having mislaid the maker's name.

THE MONTH IN APPLIED PHOTOGRAPHY

C. B. NEBLETTE, A.R.P.S.
Division of Photography, A.M., College of Texas

Audubon's Work Continues with the Aid of Photography

It was in the quaint old city of New Orleans in Louisiana that John James Audubon, one of the greatest of American naturalists, was born in 1780, and here it was some fifty years later that he completed his monumental work on the "Birds of America," illustrated with over four hundred drawings of the various birds of America, which remains to-day as the finest work of its kind ever done in this country.

Louisiana has not forgotten her illustrious son, and is not only deeply interested in preserving his name but in carrying forward the work in which his life was spent. Dr. Stanley C. Arthur, Director of the Division of Wild Life in the Louisiana State Department of Conservation, has long been interested in the photographic study of the bird-life of the State, and has made many interesting and valuable pictures of various parts of the life-history of the different birds which inhabit Louisiana at one time or another during the year. In the last few years he has largely adopted the motion-picture, and most of his work is now in this field rather than the still picture.

Dr. Arthur is now at work on a three-reel release to be titled "In Audubon's Louisiana." The production will not only be of a historical nature, in that it pictures the haunts of the great naturalist and some of his work, but it will show by means of actual motion-pictures of the free bird how remarkably accurate are the drawings of Audubon. This is to be done by means of a series of double exposures in which Audubon's drawing is first shown and then the real bird comes to life while the spectator looks at the drawing. This should be an immensely interesting film to bird-lovers everywhere and especially to school-classes in nature study. It should have a wide circulation.

Virtually all of the motion-pictures of birds in their native haunts were made with the automatic DeVry camera using various lenses—quite often the long-distance telephoto, with which he has obtained a number of unusual close-ups of birds from distances which would have been impossible with other equipment.

Air Survey in Canada

The immense natural resources of Canada are only dimly recognised as yet—particularly in the United States, which likes so well to think of itself as a nation specially favored in natural resources. We are only now beginning to realise that our neighbor to the north has tremendous stores of natural resources little inferior on the whole to our own, and, in some directions, vastly superior. Nor has Canada herself long been aware of the extent of her natural resources; for much of the country in which the large areas of pulpwood and minerals are now being found had until recently never been explored and is still largely unmapped.

Maps have, therefore, become of urgent necessity in many sections, and to meet this pressing need the Topographical Survey of the Department of the Interior is paying much attention to the subject of aërial mapping. It is fortunate that much of the territory for which maps are urgently required is such that aërial mapping is exceedingly practical. By aërial mapping the work may be greatly expedited and a far larger amount of territory be mapped in a given time than would be possible by a ground survey. In 1927 a total of 45,850 square miles were mapped by aërial methods. Most of this area lies in a region in which large stores of minerals have been recently found, and maps are necessary to further exploration and development.

Spectrography of the Inert Gases under Electrical Discharges

In the *Journal of the Franklin Institute* for April, 1928, Dr. K. T. Compton, Research Professor of Physics at Princeton University, describes work done at that institution in extreme ultra-violet spectrography of gases under the influence of an electrical discharge. Investigations have been conducted with helium, neon, and argon. In the spectrum of argon, 79 lines have been found between 459 and 1,066 a° without any evidence of being due to impurities. Many new neon lines were also photographed. An interesting feature of the neon spectrum was the appearance of a new group of lines at higher voltages.

The work was done with a specially designed, quartz-vacuum spectograph using a reflecting grating of 15,000 lines to the inch. The plates employed were the Schumann gelatine-free plate made by Hilger.

A Reflector for Enlarging

Several reflectors tried with the lamp in my enlarging-camera spread the light too much. One day I happened to see a device made for applying heat from a special 260-watt lamp onto any portion of the human body where there is pain. The shape of this reflector seemed good for enlarging, and, thinking I could obtain nothing worse than a refusal, I wrote the manufacturer, explaining what I wanted it for, and asked if I could purchase a separate reflector. A favorable reply was followed by the reflector and an invoice for a modest amount.

With the ventilated collar there is an adapter, so only a few minutes' time was needed to attach the reflector to the sliding tube carrying the lamp-socket. The sheet of opal glass in the lamp-house is 5 x 7 inches, the diameter of the reflector is about 7½ inches, and the light-rays are concentrated on a circle just a bit wider than the opal glass; hence one gets the full benefit of a 200-watt light, and the lens may be stopped down to about F/8, slowing down enlarging-time for bromide papers and enabling one to shade or dodge at will.

The device referred to is spun aluminum, cylindrical in form, with rounded top. The sides are bright; but the top is as highly burnished as a metal mirror. The open end is rolled over, making the device very rigid. It is also well adapted as a flood-light reflector.

Perry D. Frazer.

LONDON LETTER

CARINE AND WILL CADBY

We have just come back from Switzerland with a fresh reminder of the folly of procrastination. The first few days offered us wonderful opportunities for mountain-photography: clouds with drawing and quality in them, and lightings that would make any landscape attractive. But not wishing at once to become engulfed in photography, we lazily put off getting out the camera. When we had, so to speak, found our feet in our new environment and were ready to start, a heat-wave settled on Switzerland, the sun shone steadily all day, the sky was a postcard blue, innocent of all clouds, and gone were our delicate nuances of light and shade and any opportunity for the photographs we had hoped to get.

It is quite unnecessary, however, to point this moral to our readers in America, for they are not given to letting the grass grow under their feet. On our outward journey, at six o'clock in the morning, a slim girl representative of the United States was to be seen photographing a group of friends in the Basle railway-station. We had helped her to get a few chairs from the refreshment-room to make the grouping easier, and, as photographers, could not help calling her attention to the fact that it was a little rough on her friends who, after a hot night's traveling, could hardly be expected to look their best. "But we are separating here," she said, "and if I don't get them all now, I shall have lost the chance". Sensible young American to grasp her opportunity!

Just as we were beginning to congratulate ourselves on a general improvement in our press and advertisement photography, we came across a copy of that German weekly *Die Dame*, and had our complacency rudely shaken. It was interesting to see all the same subjects in this German ladies' paper as figure in our own: portraits, fashions, theatricals, furniture, etc., but with such a difference! Both drawings and photographs had taste and distinction. Why is it, we said to ourselves, that the Germans should in this respect be so ahead of the English-speaking nations? We were told by some people from Berlin that *Die Dame* is a paper with an artistic reputation that extends all over Germany. But that did not console us. Why have we no paper with an artistic reputation that covers the whole country? Our modern papers—and we think the same can be said about the American—try to achieve a reputation by freakishness which repels many and is not understood by the majority. But here is an artistic magazine that goes all over the country. Naturally, the photographic illustrations interested us most, and particularly those of furniture. This particular branch has become such a rage in England that even papers like *Sketch* and *The Sphere* have started pages devoted to the subject. Indeed, the public seems to have gone mad on anything to do with furniture and furnishing, old or new. But although every editor is on the lookout for house and furniture photographs, no one in London would have accepted the prints exquisitely reproduced in *Die Dame*. We hear them saying, "But there's nothing in it"; for simplicity, distinction, and good quality do not, alas, appeal to our editors.

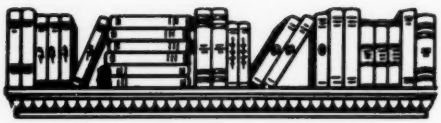
But, after all, are we not ourselves to blame for this state of things? It has been said that a country has the government it deserves; and, if this is true, probably a public has the press that suits it. At all events, we know our editors live with their ears glued to the ground, listening for indications of what they consider the demands of the many, and we can only regret that if they are right in their diagnosis we are certainly not such an artistic people as the Germans.

Kodak have gained an excellent free advertisement for their Restlight. As we think we told our readers last month, at the Professional Photographers' Congress a prize was offered by the president for the best negative made during the congress. This was won by Mr. H. M. King, who used a Restlight Studio Floodlight.

We have seen a print from his negative which is a good straightforward portrait of a man. There is nothing very striking about it; there is also nothing to criticise. The model was a good one, and Mr. King has caught a very happy expression and has not obliterated the character by over-retouching. As the negative has really a beautiful quality and Mr. King used Eastman Portrait Film, the advertisement for Kodak is most complete.

Their little magazine, which, by the way, has become recognised by a big amateur public as its philosopher and friend, is still going strong and supplies a real need. It is wonderful how it keeps up its standard; for it is easy to start bright, but to glitter year after year is somewhat of an achievement. This month it is offering a prize of £100 for a series of photographs showing a Happy Holiday. As it has been educating its readers, and leading them step by step up to the achievement of the happy snapshot that is a little more than the usual thing, no doubt this will prove a successful business.

Competitions with numerous prizes are a feature of the *Kodak Magazine*, and its many illustrations are attractive and generally entertaining; but what seems to us the triumph of its editing is its wealth of short articles—often as many as ten in one issue—all so concise, so lively, and so exactly adapted to the amateur. These clever and simply written articles are all signed with different initials or names, and one cannot help wondering where Kodak has found this galaxy of photographic writers, whose style is so similar, and who all have the beginner's interest so much at heart. Can it be, we have sometimes wondered, that the editing is responsible, or are there really . . . But it is unnecessary to burrow deeply into the inner workings of so clever a publication, and it is enough that it is a success. An extract from its "Queries and Replies" may amuse our readers as an example of that astounding naïvety we have all come across among beginners in the gentle art of the camera. One of them writes to the *K. M.*; "I want to take some photographs of animals and birds in their cages at some Zoölogical Gardens. Will the bars show in the photographs?" The clever editor replies quite seriously and helpfully, and no tactless remark is made regarding the camera's impotence in the matter of not registering unimportant detail.



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

AËRIAL PHOTOGRAPHY, by Clarence Winchester and F. L. Wills, F.R.P.S., with Foreword by Sir Alan J. Cobham, K.B.E., A.F.C., and Introductory Notes by Sir Peter Clutterbuck, C.I.E., C.B.E., and Sir Felix J. C. Pole. 236 Pages. 176 Photographic Illustrations and diagrams. Price, cloth, $10.00. Boston: American Photographic Publishing Company.

It has been our privilege to have more than a reading acquaintance with aërial photography. We have "been up", and we have made aërial photographs with several of the types of cameras mentioned in this newest of textbooks on aërial photography. As we read the pages of "Aërial Photography" we could recall our personal experiences in the air and vouch for the truth of the statements made by the authors regarding many things of which we had personal knowledge. Not in some time have we taken greater pleasure to review a book. We were living over again our aërial photographic efforts.

With very few exceptions, "Aërial Photography" contains no formulas or mathematical data which are beyond the average reader to understand. We believe that this fact alone will have much to do with making the book popular. Although written by English authors, the volume contains much information with regard to aërial photographic work and equipment in the United States. Many of the illustrations have been supplied from American sources.

In our opinion, the plan of the book is logical and convenient for reference. It is divided into four principal parts, in addition to the preface, foreword, and introductory notes. Part I is a summary of aircraft and the camera. Part II deals with photographic material and such matters as light-values and atmosphere, plates and films, negative developing and printing papers. Part III has to do with apparatus, and takes up lenses, filters, camera-shutters, and all the leading aërial cameras with their mounts, necessary darkroom equipment, map-plotting, contouring, and rectifying apparatus; and, in addition, there is information on aërial kinematography. Part IV points out the practical applications of aërial photography to exploration, surveying, industry, education, science, geography, city and town planning, flood control, publicity, and many other activities. Then, too, there is a general review of what is being done in aërial photography in Canada, France, the United States, and Great Britain. Whether the reader knows much or little about aërial photography, this new book will be of great interest and value; it is a remarkable account of man's conquest of the air and the photographic conditions which he has found there.

The volume is well printed, illustrated, and bound. It is 7½ x 10 inches in size, and the cover is artistically decorated in gold. We have read the book with pleasure and commend it heartily to our readers.

"Photography with the Leica Camera"

UNDER this title Mr. Herbert C. McKay has written an exceptionally interesting booklet, which is published by E. Leitz, Inc., 60 East 10th Street, New York City. It contains fifty-five pages of text and illustrations and is the result of Mr. McKay's personal experience with the Leica camera in the field, in science, reproduction work, photomicrography, sports, press-photography, and pictorial photography. There is much of human interest in this booklet and a wealth of practical data which will appeal to all, whether they use Leica cameras or not. We compliment E. Leitz, Inc., and believe that booklets of this type will prove to be very popular with amateur photographers, especially when they are prepared in such a readable and interesting form as that arranged by Mr. McKay. Copies of this unusual booklet will be supplied only to those who write direct to E. Leitz, Inc. It is not intended for general distribution. Those who wish one of these booklets will do well to write for it promptly.

"The Tennessee Eastman Corporation"

MANY of our readers are not aware that the Eastman Kodak Company maintains large lumber interests with headquarters at Kingsport, Tenn. The purpose is to safeguard for the future the supply of ingredients which are vitally important to the manufacture of film-base. Methanol and acetone are among the numerous valuable products of wood distillation. We have read with interest the attractively illustrated booklet, "The Tennessee Eastman Corporation", which presents a striking picture of the development of one of the largest wood industries in the South specifically for photographic purposes. We believe that our readers will find it well worth their time to obtain one of these booklets and catch a new viewpoint of how far-reaching the demands of the photographic industry have become.

A Slight Oversight

NOTICING an ambulance going by, a man peered in to see who was injured. To his surprise, it was an old friend of his—a man famous for his bad luck.

"Why!" he cried. "What's happened to you?"

The man lifted himself up on his elbow.

"It's my new job—too much for me!" he said.

"New job? Why, I thought you were unemployed."

"So I was until a few weeks ago. Then I got a job at last. But"—here he gave a deep sigh—"it was too much for me."

"Was it very trying work?"

"Well, it wasn't that exactly. You see," he explained, "my job was in an amusement park. I had to dive into a tank from a great height—and they forgot to put the water in!"

Defective

GUIDE (before statue in museum): "This piece of work that you are now looking at goes back to Praxiteles."

Visitor: "What's the matter? Ain't it satisfactory?"

A Southern Repast

"WHAT constitutes a Kentucky colonel's lunch?"

"A piece of steak, a quart of whiskey, and a dog."

"Why the dog?"

"To eat the steak."

HERE, THERE AND EVERYWHERE

To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.

The C. P. S. Lecture Bureau an Innovation

THROUGH an unintentional oversight due to conditions beyond our control, we failed to make earlier mention of the splendid innovation which is to be found in the establishment of a Lecture Bureau by the members of the Cleveland Photographic Society. A corps of ten lecturers are now available upon reasonable notice for clubs, churches, lodges, and societies. These lecturers are equipped to present thirty-three different lectures on subjects of general interest, all illustrated with hand-colored slides or motion-pictures. A number of the lectures are free to responsible organizations. The subjects include travel-talks, nature-study, photography, and science. We believe that this excellent forward step on the part of the Cleveland Photographic Society merits hearty support and encouragement. We also commend the idea to camera clubs in other parts of this country and overseas. Those who are interested will do well to write for the little folder which gives a complete list of the lectures and the lecturers. It may be obtained by addressing the Cleveland Photographic Society, 2073 East Fourth Street, Cleveland, Ohio.

Charles L. Tower

WE regret to record the death of Charles L. Tower, vice-president of the Pinkham & Smith Company, Boston, Mass. He died Friday, August 3, 1928, at his home in Everett, Mass. We knew him for many years and recall with sincere appreciation the many acts of kindness for which we were indebted to him. Our sympathy is extended to his family and to his many friends.

Ballantine's Second-Hand List for 1928

WE are always glad to call our readers' attention to the list of used cameras and photographic equipment which Robert Ballantine, 103½ St. Vincent Street, Glasgow, Scotland, issues annually. A feature of this list is that the items have all been personally inspected and passed by Mr. Ballantine; and, in consequence, overseas purchasers may have every confidence in the reliability of the equipment listed.

Union Pacific Railroad and Photography

MUCH to our pleasure we learned that the Union Pacific Railroad maintains darkrooms at its lodges for the especial convenience of its patrons who are photographers. These darkrooms are fully equipped in every detail with the latest apparatus, chemicals, safelights, scales, film-hangers, trays, graduates, and other paraphernalia; and there is no charge for the use of these darkrooms, which may be used at any hour of the day. Although steamship companies have long had darkrooms aboard the larger ships, we have not known of railroads in the United States doing much for their photographically inclined passengers. We commend the Union Pacific Railroad and hope that this splendid example will be followed by other railroads which carry thousands of tourists to the historic and scenic spots of this great country of ours. Further particulars may be obtained from C. J. Collins, General Passenger Agent, Union Pacific System, Omaha, Neb.

Twelfth C. P. Photographic Salon

THE Twelfth International Salon of Photography, under the auspices of the Camera Pictorialists of Los Angeles, will be held from January 1 to 31, 1929, inclusive, at the Los Angeles Museum. Closing date for receiving prints will be December 15, 1928. Address all communications and applications for entry-forms to Clark W. Thomas, 417 Beaux Arts Building, Los Angeles, Calif. This salon has grown successfully and merits the attention and support of our readers in this country and overseas.

Tire-Pump Used to Clean Camera

THROUGH the courtesy of E. Leitz, Inc., of New York City, we were permitted to read a letter from Mr. William D. Morgan, who is now in Gallup, N. Mex., on a photographic trip through that part of the United States. He is much interested in the life of the Indians, many of whom are very superstitious and refuse to be photographed. With the aid of a young Hopi Indian boy who could speak English and a little Leica camera, Mr. Morgan was able to obtain many unusual shots. Of chief interest in the letter was the use of the tire-pump to blow the fine dust from the inside and outside of the cameras. This dust, Mr. Morgan reports, sifts in through protective coverings; and, unless it is eliminated, it results in scratched lenses, scratched films, and spotty prints. Dust and waterproof bags for the cameras to be used in this region are strongly recommended by Mr. Morgan. We hope to have more to report from this writer-photographer when he returns to his home in Los Angeles.

Second Italian Photographic Salon

MUCH to our regret, we were unable to include this notice in our August issue. However, for those of our readers who will be overseas, we wish to call their attention to the Second Italian Salon of Photography, which will be held in Turin, Italy, from Saturday, October 6, to Sunday, November 4, 1928, inclusive. Particulars may be obtained from the Segreteria del Comitato del Salon, Torino, Via Carlo Alberto, 24. The last day for the dispatch of prints was August 31.

Vitava Athena Old Ivory

APPARENTLY the newest professional photographic paper manufactured by the Eastman Kodak Company is meeting with pronounced success. Vitava Athena Old Ivory is furnished in several surfaces, and when used with Athenon developer, as suggested, the brilliancy of tones is unusually attractive. This new paper may be obtained from dealers and is well worth a careful trial by discriminating photographers.

New Folder on Orix Press-Outfit

THERE are many amateur and professional photographers who desire the speed of the reflex with the compactness of a folding camera. The Zeiss-Ikon Orix Press Outfit will doubtless make a strong appeal, and the new descriptive folder recently issued by Carl Zeis, Inc., 485 Fifth Avenue, New York City, will be of interest. One may be obtained promptly upon request.

Kenneth D. Smith Now an A. R. P. S.

WE are very glad to record that our friend and pictorialist Kenneth D. Smith of Port Richmond, N.Y., has recently been elected an Associate of the Royal Photographic Society of Great Britain. We extend our hearty congratulations and good wishes for additional photographic honors in the future.

The London Salon of Photography

THE London Salon of Photography, International Exhibition, will be held at the Galleries of the Royal Society of Painters in Water Colors, *5a* Pall Mall East, London, from September 8 to October 6, inclusive, 1928. The last day for receiving prints was August 29. This notice was scheduled for our August issue, and we regret that it was unintentionally omitted in the hurry of going to press with that number.

Photo-Mapping Operations in the Philippines

THE 6th Photo Section, Air Corps, completed a large mapping project of the northeastern coast of Luzon during the month of May. Two DH planes and one Martin bomber took off from Camp Nichols, Rizal, P.I., at 9 A.M., May 2, and arrived at Aparri at 12.15 P.M. The personnel was as follows: Lieutenants Goddard and Wells, Master Sergeant Kelly, pilots; Technical Sergeant Stockwell and Staff Sergeant Patterson, photographers; Corporal Budsinski and Private Covington, mechanics. Mr. LaVoy, of the *Pathé News*, accompanied the expedition, and Mr. Yost, of the Bureau of Lands, joined them at Aparri.

Clouds hung over the mountains continually, which tended to retard the progress of the work to a considerable extent. Lieutenants Goddard and Wells, flying the photo-planes, mapped approximately 3,000 square miles of the northeast coast and vicinity. Mr. LaVoy obtained some valuable air and ground movies.

After returning from a three-hour flight with Master Sergeant Kelly in the Martin bomber, Mr. Yost stated that he had seen more of this territory than he would see in fifteen years of normal observation.

Sound Advice for Amateur Movie Makers

WE are always glad to see each issue of *The View Finder*, the little publication issued by the California Camera Club of San Francisco. Although it is not so large as some, it usually contains one or two short articles which have a point and much good advice. Some months ago we filed away an item which we wished to pass on to our readers. Recently we read it again; and, in the light of the present activity in the amateur movie field, we believe the suggestions in the article are even more timely now than they were a few months ago. In any event, we reprint the item in this issue and hope that it will prove to be of service:

"The question I am asked more often than any other by beginners in photography is, 'Can I afford to take movies?'

"Up to a comparatively recent date I invariably answered, 'No.' But now, since the advent of the 16 mm. film on the market, I say, 'If you can afford to own and operate a 4 x 5 Kodak, you can afford to devote your talents to making home movies.' Then the question arises, 'How shall I start to learn?'

"The making of photographic pictures is based primarily on composition, and composition can best be learned by using a still camera. So I say: Buy a Kodak first and learn to use it. Join a good photographic club and read, mark, and absorb all that you can by watching and listening to what the other members of the club say and do. You will save many spools of film or plates by so doing. I speak, of course, to those who wish to take up the art seriously.

"Referring back again to composition of pictures, motion-pictures are simply a succession of still pictures blended together in continuous composition, and therein lies the chief difficulty of a beginner in making movies. Take, for instance, the simplest form of movement, viz., a landscape panorama. Presuming the subject to be a mountain range terminating in a flat plain, it is obvious that the pictorial composition ceases at a point when the valley would be about one-third on the screen, as there would be no interest in the flat valley covering the whole film.

"Similarly with the composition of figures in motion, the action of the scene must be anticipated, visualizing same in advance, and stopping the operation of the camera at a point when the story is fully told. To continue the action longer would be waste of film, as the composition becomes uninteresting after this point.

"All of which shows that it is not photographic technique that is difficult in movies, but good judgment in the selection of suitable subjects, combined with artistic composition that requires care and experience.

"A family film of my own relatives that I have been working on for three or four years has now grown to the rather voluminous footage of over 4,000 feet, yet the interest in it never lapses. I find that no gathering of these same relatives is complete without an exhibition, as we see many of our relatives, who have passed and gone, live again for the moment; and as I see the pleasure the exhibition gives to those present, I feel amply repaid for the labor that I personally have put into the work.

"Home Movies fill a pictorial place that the Kodak snapshot never can."

EDWARD H. KEMP, in *The View Finder*.

What Is An Amateur?

SOMETIMES it is difficult to decide just where to draw the line between the amateur and the professional photographer. The following from *Through the Darkroom Door*, published by the Cleveland Photographic Society, helps us to arrive at a true definition of an amateur:

CREDO

I am an Amateur.
I strive neither for the crown of wealth nor the scepter of power.
I work for the joy of the doing—to find release from the humdrum and an outlet for my desire to express myself.
I venture along untrod paths—paths closed to professionals for economic reasons.
I am the leaven in the industrial lump.
I am an Amateur.

CARL L. OSWALD.

THE EDITOR'S CORNER

Wilfred A. French, Ph.D.

As the presses were set in motion to print this issue of PHOTO-ERA MAGAZINE, our Associate Editor, Wilfred A. French, Ph.D., passed away at his summer home in East Jaffrey, N.H. Although for over a year he has not been well and has undergone several operations, his death came suddenly and was a shock to his family and friends, as it will be also to his many readers in all parts of the world. Funeral services were held at his home, 73 Winthrop Road, Brookline, Mass., at 2.30 o'clock, Monday afternoon, August 6, 1928. It is a matter of deep regret that this issue was on the press and that, in consequence, we are compelled to wait until our October number to pay suitable tribute to the man who established the high typographical and editorial standards of PHOTO-ERA MAGAZINE and who was a friend to so many amateur and professional photographers. We shall reproduce Mr. French's portrait and record events in his life that will reveal how well he was prepared to do the constructive work in photographic, community, and fraternal affairs for which he was so well known.

Our Summer Callers

IT has been and is a source of great pleasure to me to greet the many callers who have made a special effort to drop in for a chat and a hearty shake of the hand. Frankly, it does an Editor's heart good to receive such convincing expressions of good will and interest. Furthermore, each caller brings so much of news and practical information that I feel doubly indebted. Up here, far from the pressure and roar of the cities, the heart seems to have an opportunity to express itself and friendship takes on a new and deeper meaning. Somehow, those we have known only by correspondence suddenly reveal themselves as more than subscribers or advertisers—they prove to be loyal friends, who through the years have tried to help whenever they had the opportunity. To thank them personally has been and is a privilege. Let me here record how deeply I appreciate our summer callers.

The 1928-29 Trophy Cup Race Is On!

IN the front advertising section of this issue will be found the revised rules for scoring which will apply in the 1928–29 PHOTO-ERA TROPHY CUP race which begins September 1. It will be noted that winners of Honorable Mention Certificates will now be able to score points for their clubs. We urge camera club officers to read the rules carefully and, if possible, to map out a definite program for members to submit prints each month through the winter-months and thereby maintain interest as well as stir up some friendly rivalry. Frankly, this TROPHY CUP race increases our editorial labors; but as we begin our fourth year with it, we feel that the support given the venture has made the time and effort well worth while. Of greatest importance is the fact that those camera clubs which have participated actively have been benefited as individuals and have received publicity as clubs. We claim no perfection in conducting this annual race; but we can say that, at heart, our one desire is to be of service and to work with and for those who love photography as we do.

After the appearance of the August issue we received a kindly little note from Dr. K. Koike of the Seattle Camera Club calling our attention to the possibility that his club had not received credit for one additional point in the 1927–28 race. We looked into the matter at once and found that Mr. Edward McMahon or the Seattle Camera Club won Second Prize in the April Beginners' Competition. Unfortunately, he neglected to state his membership on both the data and the print. It was on one, but not on the other. This resulted in his not receiving credit at the time. Unless club membership is clearly stated on print, data, and correspondence there is a possibility that in entering the results of the judge's awards proper credit may not be given. As it happened, this one point in no way affected the final result for the year; but we are in hearty sympathy with Dr. Koike in seeing to it that his club receives credit for every point it wins.

It is our sincere wish that the new method of scoring will be acceptable to a greater number of club members and that we shall have many additional clubs in the race for 1928–29. We wish to make it clear that we are always glad to receive suggestions and to work with the clubs in every possible way.

The Groundglass Page

IT is said that not one of us is so efficient or so skilled but that our work may be taken up and carried on as well or better by others. Perhaps this is true; but to me there are certain things upon which every man makes his indelible mark and around which his personality clings down through the years. Doubtless, one man may learn to make a pair of shoes or build a house as well as another; but when it comes to the expression of a dynamic personality in the form of the written word, I do not believe that such a man's work can be carried on. Rather I prefer to let his personality live on, unmarred by efforts of others to carry on that which for many years has been so closely a part of his life and thought. Out of deep respect to our late Associate Editor, we shall let the Groundglass Page, which he so enjoyed preparing, live on with him as a happy memory—just as he left it, with his personality forever impressed upon it.

The Book-a-Month Idea

THERE are several organisations which are offering a very convenient and interesting service in the form of providing one good book a month for careful reading. Why would it not be a good plan for amateur and professional photographers this coming winter to read one standard photographic book a month? There are some splendid new books and annuals coming along, too.

THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY, A.R.P.S.
Dean New York Institute of Photography

Movies Blindfold

No, this is not some new stunt for the amateur, although we hope to present many of them in the near future. Rather let us pause to give a little serious consideration to the motion-picture as represented by the sixteen-millimeter field.

There is no longer any question as to the permanency or popularity of this film. But what of the future? During the years which have passed since the beginning of this century, we have seen the motion-picture grow from a scientific experiment to one of the greatest industries of our country, devoted to the amusement of the nation. We are in no way opposed to clean amusement. In fact, we manage to secure a wee bit more than our share of amusement in life; but we have come to the place where we are face to face with an issue of vital importance to every one of us.

The sixteen-millimeter motion-picture followed in the footsteps of its older sister; but already the two are abreast, and now before us we see the opportunity for the sixteen-millimeter film to surpass the thirty-five in serious worth, while keeping abreast of it in amusement.

A few short centuries ago the printing-press brought enlightenment to Europe, which was engulfed in dense ignorance. We are, with reason, proud of the advancement of the race since that time; but now we have in our possession, practically unrecognised, the greatest instrument for the distribution of knowledge which has ever been given to mankind. We have in our hands the means to bring further and continued education, not only to children, but to those adults who wish for further enlightenment. We have the means wherewith to realise in an ideal manner the goal toward which the correspondence system of education has striven for years. Yes, we refer to the sixteen-millimeter, the "Home" film.

A few short years will see these films in every schoolroom. Professional men and women will use them to keep abreast of the work of their colleagues. Adults will subscribe to instructional films as they do today to the popular scientific publications. Books and magazines will not be supplanted by the films, but will be supplemented by them. Development does not doom any worthy institution, it only renders obsolete the makeshift; and books and other publications certainly are not obsolete.

There are several organisations now producing films of this character. Among these we find the Home Movie Service of Norwood, Ohio. This firm is specialising in medical films. We recently saw a film demonstrating the peculiarly delicate operation known as the Cæsarian Section. This is a film which every physician and surgeon would gladly have at hand both for information and for reference. The film was handled very ably. Not the least noteworthy feature was the arrangement, which displayed the utmost delicacy while omitting nothing of technical value. There is nothing which could bring to the layman an appreciation of the almost superhuman ability possessed by the trained surgeon devoted to the welfare of humanity.

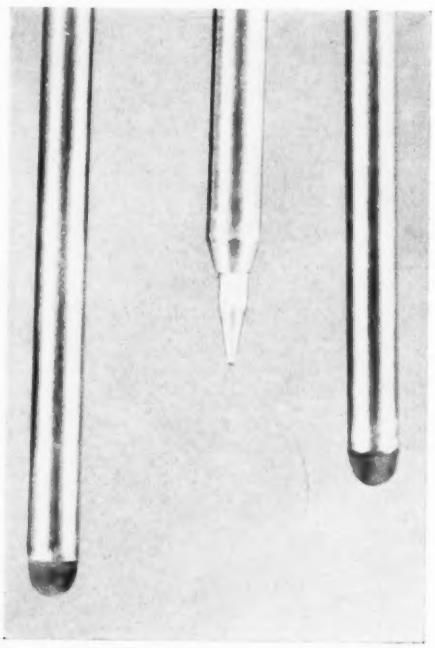
Such films—films of educational value in any profession or science—not only serve an educational purpose, but promote a deeper understanding among the followers of various professions.

The title of this short sketch? Just this: Will the amateur film remain a toy, a plaything, wandering about blindfolded; or will it open its eyes and march triumphantly toward the goal which lies ahead—the improvement of society?

Apparent Convenience or Quality?

Our European friends charge that we fail to obtain the utmost in our photography, due to the fact that we do not care to inconvenience ourselves to the extent necessary to secure this quality. Now I should be the last person in the world to hint that we are—well, a little lazy, but you can see that strangers might draw this inference.

Yes, we are coming back to the old, old question—"Is the ownership of an automatic camera sufficient reason for not owning a tripod?"



LEGS OF THALHAMMER TRIPOD
HERBERT C. MC KAY

HEIGHT OF THALHAMMER TRIPOD
HERBERT C. MC KAY

The writer cheerfully admits that for a time the automatic camera almost charmed him away from his tripod; but just at the time when the tripod was turning gray with age—or dust—he dodged the grocer Saturday night and brought home a nice black-and-gold jigger engraved "Telestar 6¼-inch focus". With it was a beautiful little prismatic focusing-device. Sunday morning saw the new equipment on the faithful camera, and then "we" went to the park to shoot squirrels!

You should see the film that resulted—but for the sake of our reputation we are glad you cannot! First, the lens was carefully focused. So far all right. Then the shooting began. The subjects were wonderful, and the light such that part of the film was used for the 80-per-second speed. Incidentally, those were the only shots which visitors ever see, because the extreme speed slowed the dancing down to a degree which could be viewed without positive pain.

The normal speed shots would put to shame the most barbarian of our modern dances, and the eccentricity of the movement was wonderful to behold. If you ever try to follow a running squirrel with a hand-held camera fitted with a six-inch lens, prepare yourself for a shock when you see the film upon the screen. After a professional training where any visible motion or shake is a positive crime, you can well imagine our feelings. Yes, most of that film went to feed the incinerator.

Many of you will at once cry "Special purposes!" Admitted, but probably half of the cameras in use today are fitted with long-focus lenses. We had a 16-millimeter camera in our hands not long since which was fitted with a 14-inch telephoto. Moreover, this camera had been used in a trip around the world! The amateur today evidently regards his binoculars and telephoto lens as necessary parts of his equipment—and rightly so. But to pass on.

The amateur has been warned time and again to stop making panoramas. Why? The panorama offers possibilities which form one of the chief charms of motion-pictures. Naturally, our amateur friends go right ahead and make panoramas, and just as naturally they throw them away after they are made—for the reason that fully three-fourths of them dance and jump about so that they are anything but pleasant to view. The poor amateur closes his eyes and visualises the beautiful panoramas he saw at the theater last Sunday night; but those panoramas were made with a firm tripod supporting the camera so that it could only turn in a horizontal plane. If you want to make panoramas—and you *do*, all of us do—get a tripod!

Then, of course, when the cameraman wants to get into the picture, the tripod is necessary. So after a long and judicious examination of the facts, we are forced to recognise a fact which the professional kinematographer has known for years—the tripod is as essential to the motion camera as is the lens! True, you can often dispense with it; but as the old Westerner once said about his "six-gun", "Wall, 'taint so often as I needs it, but when I needs it, I needs it *bad!*"

We have experimented with tripods English, tripods German, tripods American, and tripods of unknown origin. They were disguised as walking-sticks, hidden away in tricky bags with "Zipper" fasteners, enameled in rich black, highly varnished wood; some were short, and some were long. A few were heavy, most were light, and a few were true featherweights. But all had faults—that is faults when compared with the beautiful mechanisms used in the professional field. However, we recently acquired a tripod which has not

TILT-RANGE OF THALHAMMER TRIPOD
HERBERT C. MC KAY

yet failed us. It may be that the fact that it is made by a firm who make a truly *de luxe* professional tripod prejudiced us in its favor, but we do not think so.

This tripod has the divided leg, which has proved the only satisfactory style in professional work. The lower leg is made of metal tubing. One end has a hard steel spur for exterior work, and the other has a soft rubber button for use indoors. By merely reversing this lower leg, the tripod is ready for use in any location. The hardwood upper legs are equipped with nuts to compensate for wear.

The head is the principal feature of this tripod, however. The panorama is equipped with a lock which may be thrown entirely off for fast pams, or it may be left slightly tight to provide a steadying friction. Of course, it may be locked immovably. The tilt is also of the friction type, the friction being provided by an "all-round" circumferential pressure which is regulated by a slight turn of the control handle, making the tilt instantly available. The positions of both tilt and pam are controlled by the extension handle in a manner similar to the widely known professional Akeley camera.

Any beginner can, with this tripod, make perfectly steady pams, tilts, or combination obliques. However, seeing is believing; so if you will go to your favorite dealer and ask him to demonstrate the Kino-Pano-Tilt tripod to you, you will see for yourself the delightful simplicity of this tripod and its liquid smoothness of operation.

The workmanship and finish is characteristic of all Thalhammer professional equipment. Its appearance is such that you will be proud to mount your camera upon it.

Bass Camera Company

DURING the past few months the amateur motion-picture world has welcomed a host of new friends, and we have watched the growth of the new ventures with interest and with the best wishes; but when recently an envelope was laid on our desk bearing the imprint of the Bass Camera Company, we recalled the other envelopes of various sizes and colors bearing the same imprint which have found their way to us since 1912.

Many years ago we purchased our first motion-picture camera from the genial manager of this firm, and our relations since then have been extremely pleasant.

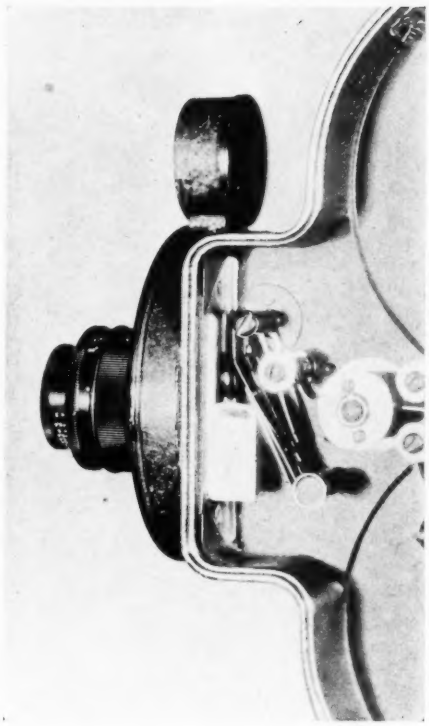
It was then with more than casual interest that we looked through this latest issue of the Bass catalog. We certainly advise every amateur to send for a copy, whether with the intention to purchase or merely to see what's new in Moviedom. Here we find listed one of the most complete lines of amateur equipment we have seen, and the bargain-list of rebuilt apparatus was particularly interesting.

Naturally there is no charge for this catalog, and the information it gives is certainly worth more than the cent necessary for postage in asking for it.

Focusing Prism

IN many cases of experimental work, title-photography, and so forth, it is highly desirable to focus the motion-picture camera directly. This has been done in the past by means of a piece of ground film in the aperture; but this is not satisfactory, as the line of vision is oblique and difficult to use.

Burleigh Brooks has just introduced a focusing-prism for Filmo and Victor cameras which fits into the aperture. One side of this prism is ground, providing a focusing-screen, and the prism reflects the image at right angles. With this prism it is very easy to focus the camera directly, as this completes an optical focusing-prism similar to those used in professional motion-picture cameras.



FOCUSING PRISM IN VICTOR CAMERA NO. 3
HERBERT C. MC KAY

Ciné-Kodaks May Now Be Used with Any Lens

MANY of you are familiar with the quality and appearance of the Ciné-Kodak, but the writer knows that many of you have purchased or intend to purchase other cameras, due to the fact that the Ciné-Kodak lenses are not interchangeable. You will be glad to know that these excellent instruments may now be equipped to take, not only any standard 16-mm. lens, but other optical accessories, such as the reflex focusing-device.

The C. P. Goerz American Optical Company have produced a 15-mm. lens which includes an angle of 38°; and in order to make this lens universally available, they have also designed an auxiliary lens-mount which will replace the standard Ciné-Kodak lens-mount. This auxiliary mount is threaded to take the standard 16-mm. lenses, and is so designed that when placed upon the camera it automatically provides the necessary back-focus to make the calibrations of such lenses read correctly.

The writer had occasion to test this equipment a few weeks ago, while it was still in the experimental stage; and, although changing lenses in the field,

GOERZ SPECIAL CINÉ-KODAK MOUNT
HERBERT C. MCKAY

all film exposed was sharply focused. There is no question that this equipment will be acceptable to many owners of Ciné-Kodaks who have felt the need of long- or short-focus lenses.

The 15-mm. lens is a fixed-focus type, as the short focus gives a truly universal depth. The results are all that can be desired, as the accompanying illustrations will show. It adds considerably to the possibilities of the 16-mm. camera and should form a part of every amateur's lens-equipment.

The Question of Speed in Lenses

NATURALLY, every amateur motion-picture photographer wants to own a fast lens. This desire is even greater now that we have a camera which will make both "slow-motion" and normal speed films. Due to the extreme rapidity of the film motion in making the slow-motion pictures, the exposure is of very short duration, approximately 1/100 of one second. This necessitates the use of a fast lens in many cases. The unusually wide-shutter sector, which gives an exposure of 1/25 at normal speed instead of 1/32, is of great help; but under the best of conditions, we need a lens whose maximum speed is about three times normal. This is figured on the basis of 1/100 of one second versus 1/32, which is practically one to three.

We know that lens "speed" varies as the square of the "F" number, as $(3.5)^2$ equals 12.25. One third of this is approximately 4.6. The square root of 4.6 is roughly 2.15. Therefore, if we make use of a lens whose maximum is, let us say, F/2, we have a lens which will do anything at high speed which the usual F/3.5 lens will do at normal speed.

There are lenses available at F/2 which are truly universal lenses; that is to say, they combine a usefully high speed with full corrections. Such lenses will give as good results, stop for stop, as any high-grade F/3.5 lens.

There are lenses whose speed is almost twice that of the F/2, but they should be used as a secondary lens for speed-purposes only. In many cases, in fact in most cases, these extreme speeds are gained at the cost of a slight loss of full correction. The very fast lenses usually have the faults distributed in such a manner that they are not readily apparent, but at the same time it is impossible to secure absolute anastigmatic quality at any stop.

This is not stated as an absolute fact in the case of every ultra-speed lens, as the writer has not had the opportunity to test all of the lenses on the market. It is said by some authorities that the latest introduction, a lens working at the extreme speed of F/1.4, is absolutely corrected.

However, this lens, at the time of writing, is not on the market, only announced as a future development. So it is perhaps wisdom, at the present at least, to limit the all-round lens to a speed of F/2 and to purchase the ultra-speed lens only as an auxiliary.

The New Kodacolor Film

THE way the process announced today makes colored motion-pictures is not so occult as such a remarkable development might seem, yet it works by such microscopic neo-magic as only the methods of modern science can deal with. A phenomenon of the process is that the film itself contains no color at any time.

The amateur kinematographer's part has been made easy. He merely has to insert a "color-filter" into his camera and thread his Kodacolor Film. But actually, when he makes color movies, without knowing it he uses hundreds of lenses and he disentangles thousands of tenuous threads of light.

The many new lenses introduced into the process are cylindrical lenses embossed right on the film, composed of the film base material and extending lengthwise of the film. The lenses on the film are about seven times narrower than the tiny dots making up the illustrations in a newspaper, and as such they are invisible except under a microscope. They cover completely the surface of the side of the film opposite from the sensitive emulsion. That surface faces the camera-lens, and the emulsion is away from the lens, contrary to the threading arrangement for ordinary film.

When the trigger of the camera is pressed, light reflected from the subject passes selectively through the three-color filter, on through the camera-lens, and thence through the tiny embossed lenses on the film to the sensitive emulsion coating on the opposite side, where it records itself upon the silver compounds therein contained.

White light, as is well known, is composed of all the colors of the spectrum. This can be seen when white light shines through a prism, or when it appears as a rainbow reflected prismatically from the drops of falling rain.

The color-filter is striped in the three primary colors of the spectrum—red, green, and blue. The reverse of the fact, that white light divides up into the colors of the spectrum, is that light coming evenly out from the three colors of the filter on a projector, and superimposed on a screen, appears white. But cover up the green and blue segments of the filter, and the screen will turn red. Cover up the red and blue, and the result will be green. Similarly, white light minus red and green gives blue.

White light minus blue only, with the red and green areas both left for the light to shine through, gives

yellow. White minus red gives blue-green. White minus green gives purple. Varying the areas of each color through which the light may shine gives the infinite shadings between these colors. Black is the total elimination of light.

Out of the rays of light which spread like a fan over the filter from every point of color in front of the camera, the red area lets only the red fraction go through to the lens, the green lets only the green through, and similarly the blue excludes all but the blue. Kodacolor Film is panchromatic; that is, it is equally sensitive to all colors. Through the camera-lens these separated rays pass, each to be focused on the part of the film frame corresponding to the part of the subject from which it came.

Then the embossed lenses do their work. If there were no embossed lenses, the rays representing the three colors would converge on the sensitive emulsion as a single point and the film would become ordinary black and white, with no differentiation of colors on the film. But the embossed lenses guide the one or two or three rays falling upon each tiny area of the film and lay them on the sensitive emulsion in an orderly fashion as three distinct impressions at any one spot.

Just as the camera-lens spreads an image of the scene in front of the camera over the whole film-surface, so each of the minute embossed lenses portrays, on the very small area of sensitive substance that it covers, the scene immediately in front of it—which is the camera-lens as seen from that particular point on the film. Of course, this means that the sensitive emulsion behind each tiny embossed lens will receive, not an image of the whole scene in front of the camera, but only a small bit of the scene, since any point on the film receives rays from only a corresponding space on the scene in front of the camera.

The three filter colors covering the lens are imaged behind each tiny cylindrical lens as three parallel vertical strips, because the tiny cylindrical lenses are parallel to the stripes of color on the filter. Thus the width of each of the minute areas of emulsion is subdivided into three parts related to the three filter colors and affected by light that is able to pass through the colors. The sum of these invisibly small affected areas of film constitutes the whole photographic image.

A red ray from an object in front of the camera, for instance, touches the sensitive material of the film at a spot related to the red area of the filter. Developing by the "Reversal Process" in use for amateur movie films turns this affected spot into a transparent area, leaving opaque the adjoining unaffected areas related to the green and blue segments of the filter. Therefore, in this case, the projector light can shine only through the invisible small points on the film, which will send beams to the red projector filter and out to the screen as pencils of red light.

So also with the green and blue and with combinations of colors. The sum of the points on the scene containing red makes a photograph from red light on the emulsion areas related to the red filter segment, the sum of the blue also makes a separate photograph, and similarly with the green.

Then the projection. Refer to the explanation of how various colors are thrown onto the screen by covering up different combinations of filter colors on the projector. Well, that is just how Kodacolor is projected. The opaque areas of the film cover up, in effect, certain of the filter-colors! they prevent the light from going through where it is not needed, by cutting off, at the film, rays which would otherwise pass out through the embossed lenses, through the camera-lens, and through the filter-color in question to the screen.

For any point on the scene, only the colors are permitted to be projected which blend on the screen into the corresponding original colors of the scene photographed. The pattern of these rays from all the cylindrical lenses on each frame projects a picture on the screen, with each ray contributing its speck of light to the color or blend of colors at one point.

The film itself is not colored. The colors of the subject are delineated merely by transparency on the film or by black metallic silver deposited in various degrees of opaqueness, so as to permit light to shine through one of the three sections of the filter as directed by the tiny film lenses.

Despite all this difficult description, the most important fact about the new process is that henceforth amateur photographs can make movies in full natural color without giving a thought to the minute magic of the process.

Amateur Movie Helps City-Commission

Because a little amateur movie reel showing Rochester's trolley busses in operation was made on short notice and traveled across the country in record time, Salt Lake City, Utah, is going to begin a similar transportation service, according to information received.

The Salt Lake City Commission was hesitant to permit "trackless trolleys" without an opportunity to see them in operation in some other city. With five days left before the franchise hearing, the Utah Light and Traction Company telegraphed to Rochester, where a film was made of the local trolley-bus operation. The picture reached Salt Lake City by air mail in time for the hearing, and the franchise was granted.

Bell & Howell Lists Wollensak Lenses

The new catalog just issued by Bell & Howell lists the Telephoto and F/1.5 Ciné-Velostigmat lenses manufactured by the Wollensak Optical Company. This, in a measure, is a recognition of the genuine merit that these popular lenses possess.

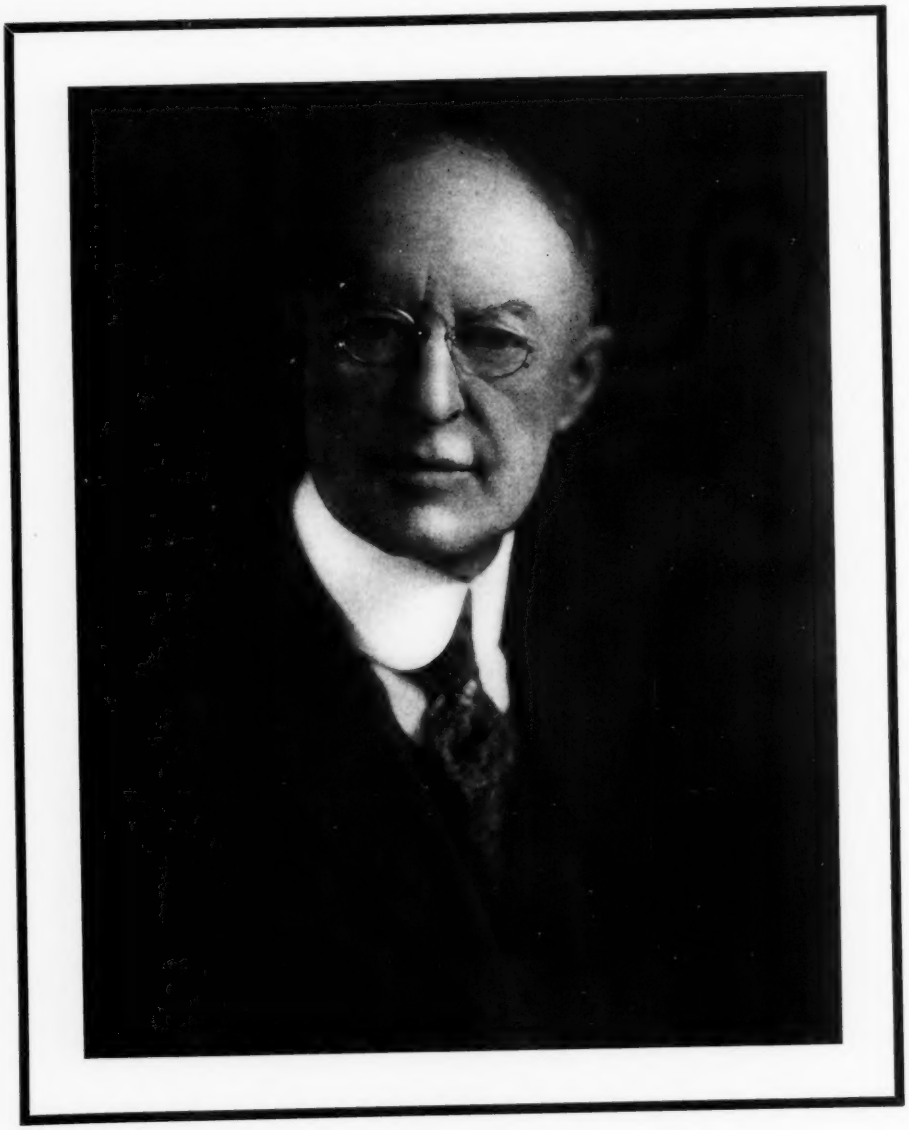
The sale of these lenses has grown beyond all expectations since their introduction. They have been giving complete satisfaction to their owners, which bespeaks the quality that the Wollensak Optical Company has been putting into their products for the past thirty years.

New Victor Model

The Victor Animatograph Company announces a new accessory, which will no doubt interest a great many amateurs. This is a professional type lens-turret. The value of such a turret is recognised by all professional workers in this field, and practically all professional cameras are so fitted.

The lenses are all set in the turret and left upon the camera. When a different lens is needed for some special work, instead of having to unscrew one lens and replace it with the next, the turret is merely turned through one-third its circumference and the desired lens is in place.

The new turret can be fitted to existing models or it will be supplied directly from the factory. This feature is one which the writer has recommended for some years, and there is no doubt that use will demonstrate that it is as practical for amateur as for professional use.



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